

Community Health Aide/ Practitioner MANUAL



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Since the Community Health Aide Program was initiated in 1968, the Community Health Aide/Practitioners (CHA/Ps) in the State of Alaska have produced a marked improvement in rural health care. The CHA/Ps' work has been greatly assisted through use of the 1976 Health Aide manual, Guidelines for Primary Health Care in Rural Alaska, a book on "how to" provide health care in rural Alaska, geared toward CHA/Ps who have completed basic training (10 weeks).

The 1976 manual has been completely rewritten into this book, the CHA/P Manual. Our four year rewriting project has included a review/revision of every section by approximately 50 statewide reviewers who represent a wide variety of health care providers. We have taken into account what is the current medical practice in each area of the state. We have worked hard to produce a book that we feel is usable, gives consistent advice throughout, and reflects a realistic standard of care for the Alaskan village.

Although the referral doctor has overall responsibility for health care provided by the CHA/Ps, we recognize the importance of setting up consistent statewide treatment guidelines for the Community Health Aide/Practitioner and referral person to use in dealing with village health problems. Written in consultation with specialists at the Alaska Native Medical Center and under the direction of AANHS (and related) physicians, this manual is meant to reflect a standard of care. Referral health care providers should follow the guidelines in this manual, if at all possible. In addition, referral doctors should sign a form for certain CHA/Ps, authorizing them to use the manual as standing orders (p.viii).

We do not anticipate another complete rewriting of this manual, but periodic revisions or new editions will be necessary. If a permanent change is needed in this book, the change should be brought about through the local clinical director, using a process outlined on p.viii.

The Alaska Area Native Health Service supports the efforts of the CHA/Ps and all related health care providers. We endorse your continued efforts to improve health care in rural Alaska following the guidelines in this manual.


Robert Singyke
Director

Alaska Area Native Health Service



Osamu H. Matsutani, M.D.
Chief Medical Officer
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HOW TO USE THIS MANUAL

Primary health care in rural Alaska is delivered by approximately 210 Community Health Aide/Practitioners (CHA/Ps) who receive remote medical supervision from a physician. A Community Health Aide (CHA) is selected from his/her village, formally trained (approximately 10 weeks) by one of three programs in the state (Anchorage, Bethel, or Nome), and paid and supervised by a local Native Regional Health Corporation. When a CHA completes the training center's certification process, he/she becomes a Community Health Practitioner (CHP).

Clinical guidelines for the CHA/Ps come mainly from this manual, which is written for those who have had basic training. A referral physician, possibly hundreds of miles away, is often contacted by radio or phone for further advice.

This book is dedicated to the CHA/Ps, who have the most difficult job of any health care provider in Alaska.

GETTING STARTED

"It's not always easy to know what to do."

—Sam Spade, **The Maltese Falcon**.

This manual is a guide. It has information about health problems and preventive medicine that should help the CHA/P to remember and improve skills in providing health care.

For treating many health problems, a number of different ways of caring for a patient are acceptable. No *one* way is right. Good doctors disagree. This manual contains recommended guidelines for CHA/P and referral doctor to use.

Always use your common sense. The way to give proper health care to every patient, for all problems, can NOT be written in one book of guidelines.

- You must be flexible and creative.
- At times you must change what you do and how you do it. Those changes depend on many things, including:
 - ☐ what the problem is.
 - ☐ your training and experience.
 - ☐ your equipment and supplies.
 - ☐ what helpers are available.

Before You Use This Manual

Understand that when talking about the patient, the word "he" is often used.

- "He" means he or she.
- "He" is used so the manual will be easier to read.

Read these other sections, which have guidelines on how to give care and how to use this manual:

- "Medicines: General Information," p.413.
- "How to Use this Manual When Patient Has a Health Problem," and "History of Present Illness" (inside front cover).
- "Emergencies: Introduction," p.1.
- "SOAP Recording and Reporting," p.361.
- "Complete History and Screening Physical Exam," p.364.
- "General Follow-Up or Long-Term Care," p.448.
- Guidelines for "Preventing Communicable Disease," p.442.

Understand that information about skills is put in the manual for a reminder, NOT to teach you by itself.

- Examples of skills: Physical exam, lab tests, starting and giving I.V. fluids, splinting, others.
- You should be taught and checked out on such skills by qualified health care providers, before you work alone.
- In some cases a summary box is provided for your convenience. If you know well the information that follows, you can use the summary as a reminder.

- Use the information on skills in this manual:
 - ☐ to review.
 - ☐ to teach others.

As You Use This Manual

If you are not sure how to use this manual at any time, ask someone who is good with words to help you.

This manual uses a numbering system to remind you that you often follow an order of steps when giving health care. In general, you have NOT finished a section until you have finished all of the numbers (steps).

As you read, page numbers for other sections may be listed:

- In most cases, a page is listed for reference, only if needed.
- *If the manual says "Go to ...,"* this is more than a reference.
 - ☐ this refers you to another place in the manual.
 - ☐ you should go to the place listed. Depending on the problem, you may not need to come back to the original section.

Some charts, such as health education charts, are made so that they can be copied (Xeroxed®) for your use. Ask your health corporation or referral doctor how this can be arranged.

If needed, write in phone numbers and new information.

Giving Patient Care

Clinic Management

In order to give good patient care, you must have a good system for managing your clinic. Your health corporation and others will help you set up a system, including the following:

- Scheduling work time.
 - ☐ including scheduling times for women's clinic, well child clinic, home visits, and paper work.
 - ☐ posting clinic hours and CHA/P "on call" schedules.

- Organizing and caring for your clinic building.
- Ordering and storing drugs, supplies, and equipment.
- Getting equipment repaired.
- Keeping a clinic library, including drug and transport references.
- Organizing a filing system for:
 - ☐ medical records, including master problem lists and health surveillance sheets.
 - ☐ blank forms, including consents for surgery and anesthesia.
 - ☐ letters.
 - ☐ other paper work.
- Working with other health professionals.
- Handling other administrative and management problems.
 - ☐ reports.
 - ☐ emergency transport procedures.
 - ☐ legal aspects of a death in the village.

Clinic Visit or Home Visit?

In general, you should see patients at the clinic, if at all possible. You can give better health care at the clinic:

- You have more privacy, medical records, equipment, supplies, medicines, and reference books.
- More patients can be seen in less time.

You may decide to make a home visit for certain patients.

- Examples: patients who can not walk to the clinic because of old age, severe illness, or injury.
- Carry a "black bag" with the following:
 - ☐ examining equipment.
 - ☐ pen and SOAP note paper.
 - ☐ bandaging materials, such as 4x4's, rolls of gauze, tape.
 - ☐ IPECAC.
 - ☐ other things you feel you may need for a certain patient.
 - ☐ if you are taking medicine for injection, also carry a Tubex® of EPINEPHRINE and a card with emergency doses written down.

Get support from your village council or health corporation. If needed, post a

letter from them, to let patients know:

- Clinic hours.
- Home visit policy.

Other Patient Care Guidelines

All information about a patient is confidential.

- Get history and examine in private area.
- Do NOT talk about patient's problem to anyone unless you have patient's permission to do so.

Remember that the real reason why patient came to clinic may be different than what he first tells you.

- Patient may be too shy to say the real reason.
- Patient may have made the wrong assessment.
- Observe patient as you get history and examine. This will tell you a lot.

Reassure the patient.

- Be gentle and sympathetic.
- Explain what you are doing and why.
- An important part of the healing process is touching, whether it is:
 - ☐ putting a concerned hand on patient's arm.
 - ☐ examining.
- Understand that the patient or his family may be angry and blame you for causing the problem or for not curing it. This is normal. The patient is usually angry at being ill. If this happens:
 - ☐ try to get along with the patient.
 - ☐ do NOT take it personally. Help the patient to talk about his feelings (p.219).
 - ☐ be sure to report to your referral doctor. This can help to reassure you as well as the patient.

USING THE PROBLEM SECTIONS IN THIS MANUAL

As much as possible, each of the problem sections in this manual has

been written in the same way, so all will be easier to use.

Information that follows in *this* section is written here:

- To help you understand certain parts of the problem sections.
- To avoid repeating. Some guidelines which follow apply to *all* problem sections.

Finding the Right Section

Use the index and table of contents to help you find the right section.

- Use the index to look up patient's chief complaint.
 - ☐ if index refers you to an assessment or plan, go back to the beginning of that problem section and begin there.
- Check the table of contents so you understand how the sections are arranged.

Emergency Care

An emergency care step may be found in some problem sections.

If patient is NOT seriously ill, you may decide to skip this step and go on to the next.

History

Ask the patient or someone else who knows the history.

Let patient tell you the history by himself, as much as possible.

- Say to patient: "Tell me about the problem."
- Encourage patient to talk. It may help to:
 - ☐ nod your head.
 - ☐ say, "Go on."

Make it easier to ask personal questions. Do the following:

- Be sure patient knows that:
 - ☐ what he says is confidential.
 - ☐ you are asking for information about his health.

- Ask the questions with confidence. Doing this will help patient to relax, also.

History of Present Illness

For all problems, you should get general history of present illness (inside cover).

Each problem section lists some other specific questions.

- These other questions include questions that relate to that part of the body where a disease often begins.
 - ☐ most of these questions are taken from the "Review of Body Systems," p.365.

Other History

In the problem sections "other history" often includes information needed from:

- Review of systems.
- Family health history.
- Personal/social history.

Assessment

There may be many possible assessments for a patient's chief complaint, so your assessment should be as specific as possible.

When you make an assessment, use the following to decide what is the most likely assessment:

- Use history and exam findings.
- Use information found in the assessment step.
 - ☐ if there is an assessment *chart*, patient will probably NOT have all of the typical findings listed.
 - ☐ decide which assessment is closest to what the patient has.
- Use help from others, if needed, including other CHA/Ps, EMTs, and reference books.

Plan

If the plan lists something that you can NOT do:

- Go on to the next part of the plan.

- Do what you can do.
- Use a helper, if needed.

Report to your referral person.

- This manual will say "report to your referral doctor," since the doctor has overall responsibility for health care provided by CHA/Ps.
- Follow guidelines for your region.

If you can NOT reach a doctor,

follow these guidelines until you can:

- Often the plan is listed.
- If you think patient needs emergency care at hospital, arrange for transport.
- Reassure patient.
- Activity: Little or none if patient is sick.

Patient education. For every assessment, patient should understand:

- What the problem is (what seems to be wrong and why).
- How to treat the problem.
- How to prevent the problem from getting worse, coming back again, or spreading to others.

Patient education should begin as you get history and examine. It should continue through each step of your plan.

- Any special patient education information is listed in this manual as early as possible in the plan.

Understand your patient. As you talk with patient, decide the following:

- What does the patient already know?
- What does the patient need to know?
- What does the patient expect? Ask patient something like:
 - ☐ "What treatment do you think you should get?"
 - ☐ or, "How do you hope to be helped today?"

Do NOT give moral lectures on what the patient should do.

Organize your thoughts, and explain things in a way so that the patient

understands and wants to care for himself correctly.

- Give clear instructions in an order that is easy to follow.
- If needed, use patient education handouts, pictures, or other materials.
- Do NOT give too much information during one visit.
- Let the patient help to make the plan.

After you give important instructions, make sure patient understands.

- Ask patient to repeat back to you.
- Have patient show you that he knows how to do any special jobs (skills) he will have to do.

Always ask if patient has any questions.

- If you do NOT know the answer, find out from your referral doctor or other source, and tell the patient.

Medicine is listed as follows:

- By the medical (generic) name. A brand name may be listed as an example.
- Often more than one medicine is listed, because different areas of the state supply different drugs. Medicines are listed in order of recommended treatment. Plan to use the first drug that is listed, if possible.

Recheck as needed, according to patient's problem and your referral doctor's advice.

- *If very sick*, stay with patient and watch ABC's: Airway, Breathing, Circulation.
- Some health care providers feel that every patient should be rechecked before he stops taking a course of medicine.
- Be sure that the patient knows it is OK to come back to see you if he has concerns.

When you tell a patient to return to clinic for a recheck, also give the following patient education:

- Why the recheck is needed.
- What you will probably do.
- Patient should return to clinic *sooner* if he is getting worse instead of better.

What exactly should you do when you recheck a patient? Guidelines are listed in most problem sections. In general, you should do the following:

- Get history.
 - ☐ ask patient: "What has happened since I saw you last? How are you doing? Are you having any problems?"
 - ☐ if patient has a symptom, find out more about it.
- Examine. Do one of the following, if needed:
 - ☐ examine the part of body where patient has the problem.
 - ☐ repeat the exam you did on the first visit.
 - ☐ if patient is getting worse, you may decide to examine more.

If patient is NOT getting better or if patient is getting worse, report to your referral doctor.

General Information

This manual is meant to be a book on "how to" provide health care. General reference information has been:

- Left out of the problem sections, as much as possible.
- Included only if needed for better health care and patient education.

Any general information that is included can usually be found:

- At the end of acute care sections.
- At the beginning of other sections.

INFORMATION FOR HEALTH CARE PROVIDERS WHO WORK WITH CHA/PS

"Primary health care is:

- Essential health care based on practical, scientifically sound, and socially acceptable practices in health delivery.
 - The first level of contact of individuals and families with the health delivery system."
- Indian Health Service, Resource Allocation Document.

This Manual: A Standard of Care

For many health problems, a number of different ways of caring for a patient are acceptable and no *one* way is right. Still, the regional Clinical Directors recognize the importance of setting up consistent statewide treatment guidelines for the CHA/P (Community Health Aide/Practitioner) *AND* referral person to use in dealing with village health problems. Under the direction of AANHS and related physicians, this manual is meant to reflect a standard of care.

Referral health care providers should follow the guidelines in this manual, if at all possible. Doing this will:

- Save time and prevent mistakes by using a plan which spells out treatment.
- Reduce confusion and mistakes that may happen if treatment plans differ among referral persons.
- Reinforce what has been taught, and give the CHA/P more confidence when NOT able to reach a doctor.

"An adequate something is better than a splendid nothing."

—Dr. Wayne Myers

If drugs or supplies are recommended in this manual and are not on your region's CHA/P list, the Clinical Director will need to decide which of those should be supplied or what the alternatives should be.

If a permanent change is needed in the manual, the change should be brought to the attention of the Clinical Director. The Clinical Director should arrange for this change in collaboration with the appropriate ANMC specialist and A-CHAP. The process involved should be:

- Clinical director consults appropriate ANMC Specialist (Service Chief).
- Service Chief consults with A-CHAP and responds to Clinical Director.
- A-CHAP coordinates making changes agreed upon.
- Changes are clearly spelled out to each CHA/P and added into the manual.

Support the CHA/PS

In the process of delivering primary health care, CHA/PS work with and help to coordinate the work of many people in health related fields. They have perhaps the most crucial and most difficult job of any health care provider in Alaska. To support them is to support better overall health care.

In addition to following orientation guidelines available from the Community Health Aide Program, you should do the following:

- Teach according to the guidelines in this manual.
- Support the CHA/P's medical decisions, using this manual according to supervisory guidelines in your region.

Standing Orders

This book is written so that it can be used as standing orders for a CHA/P.

- There are certain routine, non-emergent problems that an experienced CHA/P should be able to treat without contacting the referral doctor.
 - ☐ in the plan for such problems, there will be a statement such as: "Report to your referral doctor, unless he has signed for you to treat this problem without contacting him."
- Also, there are certain emergency problems that an experienced CHA/P should be able to treat when unable to reach the referral doctor.
 - ☐ in the plan for such problems, there will be a statement telling the CHA/P to treat "if the doctor has signed for you to do this when you can not reach him."

A regional form can be developed so that a referral doctor can sign off a CHA/P for the whole manual or for certain parts of the manual.

GENERAL EMERGENCY INFORMATION

EMERGENCIES: INTRODUCTION

If patient has a specific problem:

- Look up the problem in the index.
- Go to that section of this manual.

Begin here for general information about giving emergency care.

EVALUATE AND TREAT THE EMERGENCY PATIENT

Infants and small children may be treated differently in some cases. Be sure to report to your referral doctor for any special instructions.

The purposes of emergency care are to:

- Save a life.
- Prevent further injury: DO NO HARM.
- Return a person to a productive, useful life as soon as possible.

[1] Be calm in every emergency. If you stay calm it will:

- Reassure patient.
- Help those around you to be calm and to work better.
- Help you to make an assessment and plan.

[2] Look around you and the patient.

- Be safe. Look for dangers to yourself and to patient.
- Try to decide exactly how an accident happened. This will help you to think about what injuries patient may have.

[3] Be in charge of the emergency care.

- As you arrive at the scene:
 - ☐ identify yourself.
 - ☐ decide who is in charge. It should usually be you, the CHA/P.

- Make sure everyone knows who the person in charge is.
- Carefully think out what you need to do:
 - ☐ use common sense.
 - ☐ take advice from others, but have one person in charge.

[4] Get help from others as soon as possible.

- As you are working with this patient, try to get help.
- A trained person (EMT/ETT) can help you check the patient. For example, while you check patient, another person can:
 - ☐ take patient's vital signs.
 - ☐ bandage a wound.
- Helpers can do things while you stay with patient. For example, a helper can:
 - ☐ get OXYGEN set up for a patient.
 - ☐ get equipment ready for you to put in an I.V.
 - ☐ borrow medicine that you need from another patient.

[5] Do many things at once:

Question, examine, make an assessment, and give emergency care.

- Although your work must be complete, each part of emergency care is not separate as it must be when it is written in this manual.
- Always check:
 - ☐ ABC's (Airway, Breathing, Circulation).
 - ☐ vital signs: T, P, R, BP.
- Treat life-threatening emergencies as soon as you find them.
- Get history quickly, while you examine. Get it from patient, relatives, friends, people who saw the accident, others.
- Treat possible problems, even before you examine. Example: If patient has head injury, treat him as if he has a neck injury.
- Prevent other problems from happening. Example: If patient is sleepy or confused:
 - ☐ lay patient on his side to help prevent choking on vomit.
 - ☐ if he vomits, turn his head to the side and suction or wipe out his mouth.

- If there is any chance that the patient may have an unknown injury, do a body survey (p.9).
- If patient may have an unknown illness, do a screening physical exam (p.368).

[6] Reassure patient. Explain what you are doing as you examine and treat patient.

[7] Report to Your referral doctor. **If you can NOT reach a doctor:**

- Follow the treatment plans in this manual.
- Decide if patient needs emergency transport.
 - ☐ for example: Most broken bones are not emergencies, but a fractured thigh bone or an *open* fracture is.
- If you think patient needs emergency care at the hospital and can NOT wait, arrange for transport.
 - ☐ usually it is best to have a helper arrange for transport while you stay with patient.

[8] Keep good records. Be

complete. Keep good notes to send with patient for referral and transfer.

- Record all exam information.
- Record times you got information. Example: "11:30 p.m.: BP 120/60."
- Record any *changes* in:
 - ☐ vital signs, or
 - ☐ other exam information.

[9] If patient needs emergency transport to the hospital:

- Patient also needs a medical escort (you, EMT, or other person trained in emergency care).
- Follow guidelines in an emergency transport manual.

PREVENTION OF PROBLEMS: BE PREPARED

Accidents and injuries are a big cause of death and chronic problems in Alaska.

Get the proper training:

- Emergency care should be taught to you by an experienced health care provider. Information is in this manual as a reminder only.
- Learn *why* you do things. Then you will remember the treatment more easily in an emergency. For example: You take off a patient's ring when he breaks his arm because: if his hand swells, the ring may cut off circulation to the finger.

Encourage others to learn. An EMT or ETT trained person can help you to save lives.

Memorize life-threatening emergency treatment (p.3). You will NOT have time to look up this information in a real emergency.

- Review the treatment of life-threatening emergencies about four times a year.

Use this manual to remind you of important things to do and check. You do not need to memorize everything about emergency care.

- Use the index to help you find the right place.
- Get to know the emergency sections ahead of time, so that you can find information quickly when you need it.
- Write in changes in treatment that your referral doctor tells you.

Keep up your skills. Use about two hours a month to review emergency care.

Plan ahead for emergencies.

- Keep equipment and supplies on hand, labeled, and stored where easy to get.
 - ☐ keep them even if you are not

trained. Visiting health care providers will be able to use what you have.

- ☐ see chart A for a list of some suggested equipment/supplies that you should have. Ask your referral doctor. The list may be different in your area.
- Check regularly to see that your equipment is working OK.
- Have a way to tell the community that you need help. Examples:
 - ☐ a siren or airhorn.
 - ☐ a place to go where you can get help night or day.
- Have a way to divide up the work.
 - ☐ as a CHA/P, you will be busy caring for the patient.
 - ☐ others will need to help out in other ways. Example: transporting patient to the airport.
 - ☐ every community should have a disaster plan and disaster drills.
- Have good communications to the hospital.
 - ☐ your communication system should be ready to be used at any time.
 - ☐ have a back-up method, in case your usual way does not work.
- Understand the emergency travel policy in your region. Often the IHS will pay for transportation that a CHA/P orders if:
 - ☐ You tried but could not reach the doctor, AND
 - ☐ You think that patient needs emergency care at the hospital and can NOT wait.

Chart A

EMERGENCIES

Some suggested equipment/supplies:

"Baby box" (emergency childbirth)
 BP cuffs, 3 sizes: regular, child, and large adult
 Backboards (long and short)
 Bandaging materials
 Basins, emesis and wash basin
 Bedpan
 Blankets
 Blood drawing equipment
 Burn sheet, sterile
 Cervical (neck) collars
 Crutches
 Disposable Chux "sheet saver" pads
 Elastic (Ace®) bandages
 Emergency transport form
 Eye shield
 Fetoscope
 Flashlight
 Gloves, sterile
 Hemoglobinometer
 IV needles, equipment and solutions
 Knife handle and scalpel blades
 MAST Suit® (pneumatic anti-shock garment)
 Nosebleed kit, for severe (posterior) nosebleed
 Otoscope
 Oxygen
 Pillows
 Poison treatment materials
 Ring cutter
 Sand bags to help splint head & neck
 Scissors, bandage type
 Skin closure strips (Steri-strips®)
 Slings
 Splinting materials, including rolls of plaster bandage
 Stethoscope
 Stomach (N-G) tube
 Stretchers (2) with straps (make sure they fit in airplanes you use)
 Suture set and sutures
 Syringe, large Toomey, to irrigate wounds, stomach
 Tape, adhesive
 Thermometers, including special low reading
 Tonometer
 Urinary catheter

LIFE THREATENING EMERGENCIES

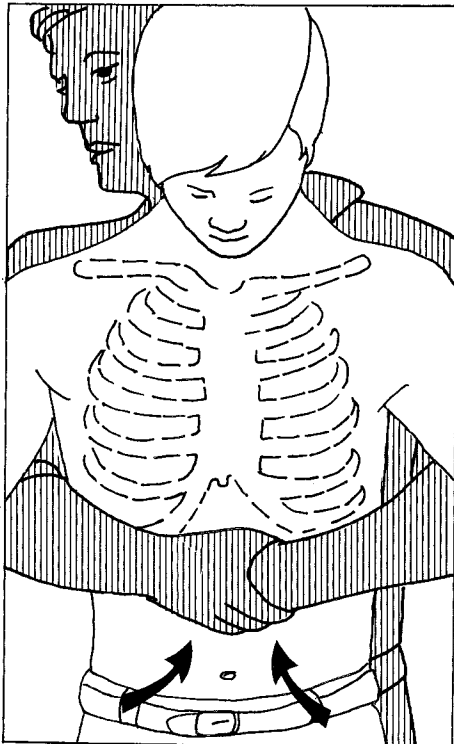
WHEN SOMETHING GETS STUCK IN THE THROAT

If patient can speak or can cough well, do the following:

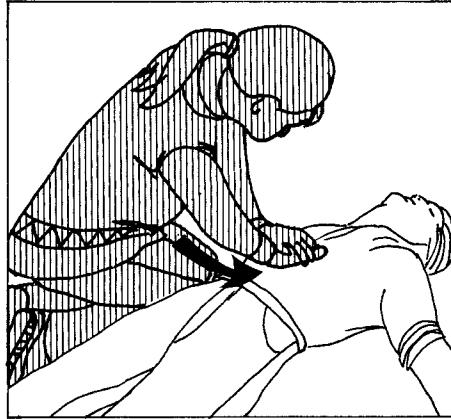
- Calm and reassure patient.
- Try to get him to cough it out.
- Report to your referral doctor as needed.

Begin here if patient can NOT speak or can NOT cough well.

[1] Give abdominal thrust (Heimlich maneuver), and repeat if needed.



Thrust in and up.



Abdominal thrust, lying down.

- If very fat or very pregnant, use chest thrust (same position as for CPR), not abdominal thrust.
- If infant (up to one year), the following is safer, to prevent injury to abdominal organs:
 - ☐ first give four back blows:
 - straddle infant over one arm (or hold in lap) with head tilted down; hold well.
 - hit between shoulder blades.
 - ☐ next, give four chest thrusts (same position as for CPR).

[2] If patient becomes unconscious, do the following:

- Open mouth as follows:
 - ☐ grasp both tongue and lower jaw between thumb and finger.
 - ☐ lift tongue and lower jaw (tongue-jaw lift).
 - ☐ if you see a foreign body, remove it.
- If infant or child:
 - ☐ attempt rescue breathing (p.4).
 - ☐ repeat the above steps, as needed (finger sweep is not recommended).
- If adult, repeat the following steps, as needed:
 - ☐ do finger sweep:
 - insert index finger down along inside of cheek and deep into throat to base of tongue.
 - try to hook out the foreign body from behind.
 - ☐ attempt rescue breathing (p.4).
 - ☐ give 6-10 abdominal thrusts.
 - ☐ open mouth with tongue-jaw lift.

CPR (Cardiopulmonary Resuscitation)

Begin here for patient who may have:

- Respiratory arrest (no breathing), or
 - Cardiac arrest ("stopped heart").
- CPR is done on patient with cardiac arrest.

Summary CPR

1. Shake & Shout.
2. Yell for Help.
3. Open Airway.
4. Check Breathing.
5. Give Two Full Breaths.
6. Check Circulation.
7. Yell for Help.
8. Add Chest Compressions.
9. Stopping CPR If No Response.

If Possible Head or Neck Injury

Treat patient as if he has a spine injury, especially in these situations:

- Head injury.
- Driving accident.
- Diving accident.
- Fall.
- Airplane accident.

Remember *throughout* CPR that you must protect (do not move) this patient's neck and back.

- Keep the patient's neck and back straight during your treatment.
- When possible, splint neck and back to prevent movement (p.243).

1. Shake and Shout

1.1 Gently shake and shout to see if patient is unconscious.

2. Yell for Help

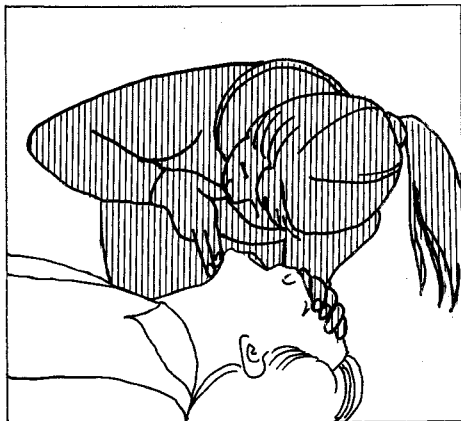
2.1 Yell for help as soon as you decide that patient is unconscious.

3. Open Airway

3.1 If patient is not lying flat on his back, roll him over carefully, keeping his neck and back straight. (Shown on p.9).

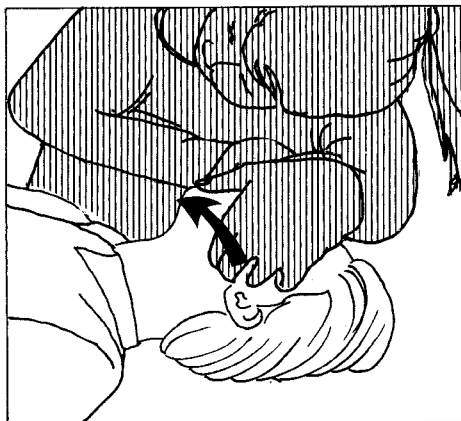
3.2 Gently tilt patient's head back, if no neck injury, and lift the chin.

- If infant, tilt head only enough so that head and neck are straight (neutral position).



Chin lift, if no neck injury.

3.3 If possible neck injury, instead, push jaw forward (jaw-thrust) *without* moving the neck.



Jaw-thrust, if neck injury.

3.4 Keep airway open.

- If patient vomits at any time, do the following:
 - ☐ turn him on his side.
 - ☐ sweep out his mouth.
 - ☐ roll him back, and continue CPR.

4. Check Breathing

4.1 Look/listen/feel for breathing, for 3-5 sec.

5. Give Two Full Breaths

5.1 If patient is not breathing, give two full breaths.

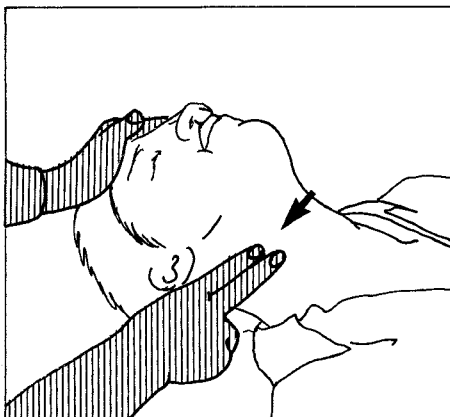


If infant, cover mouth and nose.

6. Check Circulation

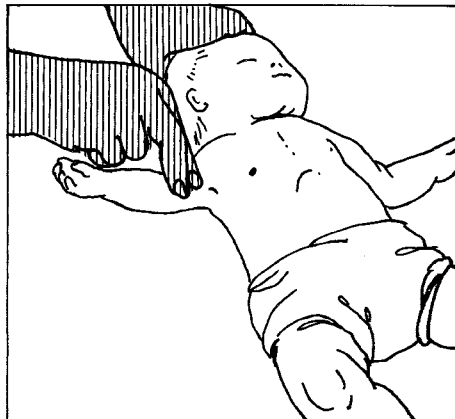
6.1 Feel for the pulse for 5-10 seconds (if hypothermia, feel for up to one minute).

- If child or adult, check neck (carotid pulse).



Check pulse.

- If infant (up to one year), check upper arm (brachial pulse).



Check pulse.

6.2 If you feel a pulse:

- Do NOT do CPR.
- Continue rescue breathing, if needed.
- Check the pulse every minute to be sure the heart keeps beating.

7. Yell for Help

7.1 If you can NOT feel a pulse, yell for help again, if needed.

- Have a helper call someone who knows CPR (EMT, ETT, others).

8. Add Chest Compressions

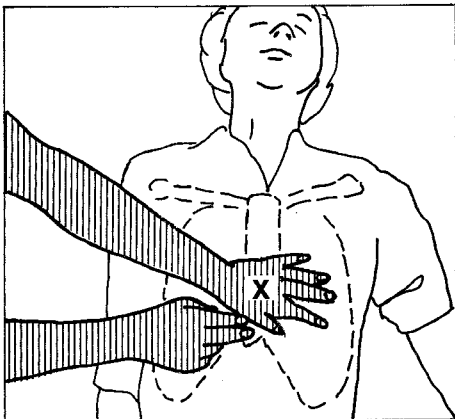
Start chest compressions if there is no pulse.

- In order for CPR to work, a patient must be lying flat on his back, on a firm (hard) surface.
- If hypothermia (low body temperature) or near drowning, a patient may be revived up to an hour or more after it appears that the heart stopped.

8.1 Find the right spot.

- If child or adult:
 - ☐ find the notch where the ribs come together at the lowest part of the breastbone.
 - ☐ place two fingers in that notch, over the tip of breastbone.

- ☐ place heel of your other hand just above your fingers, on the lower half of the breastbone.

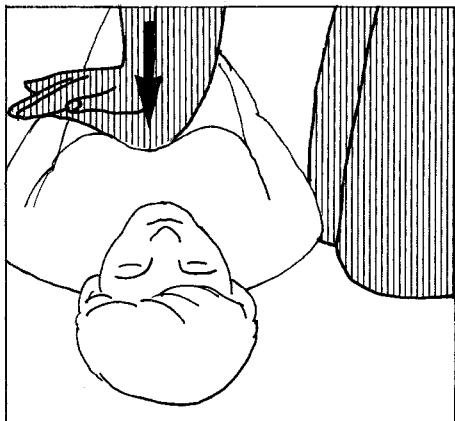


Find the right spot.

- If infant (up to one year), place two fingers just below the nipple level of the breastbone.

8.2 Position your hands and arms.

- If adult:
 - ☐ place one hand on top of the other.
 - ☐ place your shoulders directly over the breastbone.
 - ☐ keep your elbows straight.
 - ☐ keep your fingers off the chest wall.
 - ☐ push straight down.



Push straight down.

- If child (1-8 yrs),
 - ☐ use the heel of only one hand.
 - ☐ place your shoulder directly over the breastbone.
 - ☐ keep your elbow straight.
 - ☐ keep your fingers off the chest wall.

- ☐ push straight down.
- If infant (up to one year):
 - ☐ place two fingers just below the nipple level of breastbone.
 - ☐ push straight down.



Chest compressions, infant.

8.3 CPR rhythm and rate:

- Rhythm with one rescuer:

Age	Compressions	Breaths
Adult	15	2
Child 1-8 yrs.	5	1
Infant 0-12 mo.	5	1

- Rhythm with two rescuers:

Age	Compressions	Breaths
Adult	5	1
Child 1-8 yrs.	5	1
Infant 0-12 mo.	5	1

- Rate of compressions should be:
 - ☐ on child or adult: 80-100 per minute.
 - ☐ on infant: at least 100 per minute.
- After compressions, pause to give breath.
- Do NOT stop compressions for more than five seconds.

8.4 Check the pulse.

- Check the pulse after the first minute, and every few minutes after that.

9. Stopping CPR If No Response

9.1 Report to your referral doctor.

If you can NOT reach a doctor, you may stop CPR if the doctor has signed for you to stop CPR when you can not reach him AND if the following is true:

- There is no response from patient in over ½ hour of CPR, meaning:
 - ☐ there is no pulse.
 - ☐ pupils are dilated and do not react to light.

—AND—

- This is NOT a case of drug use, hypothermia (low temperature), or drowning.
 - ☐ in these cases, you should continue CPR until the doctor tells you to stop.

9.2 You may also stop CPR if you and your helpers are so tired that you can not continue.

CPR: General Information

CPR should be taught to you by a certified instructor. The information above is put here as a reminder.

It is good for you to review how to do CPR about four times a year.

- Practice correct hand position, body position, and rhythm.
- Practice chest compressions on a mannequin, *never on a living creature*.

Near Drowning

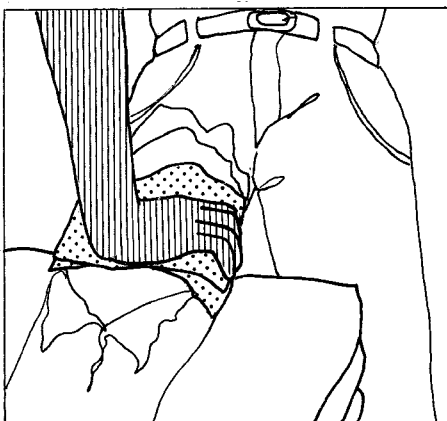
As needed, follow the steps outlined above for CPR. Also follow these guidelines:

- Begin rescue breathing soon, even before you get patient out of the water, if possible.
- *If possible neck injury* (diving accident):
 - ☐ if patient needs to be turned onto his back, support his head, neck, chest, and body (keep them straight) and turn patient carefully.
 - ☐ float the patient (lying on his back) onto a backboard before you remove him from the water.

- Clean the airway only if needed. Do NOT waste time trying to drain water from the lungs.
- Continue CPR! Patients who have been under cold water for quite a while have been resuscitated! The colder the water, the better the chances for survival.
- Remove cold, wet clothing and wrap patient in dry blankets, to protect from the cold.
- Check rectal temperature. Use a special low reading thermometer.
 - ☐ if needed, treat for hypothermia (low body temperature, p.335).
- If you can NOT reach a doctor, arrange for transport to the hospital, even if patient seems to be doing well. A drowning patient may later develop fluid in the lungs, abnormal heart rhythm, or other problems.

[3] Elevate.

- It may help to raise the bleeding part higher than the level of the heart while you use direct pressure.
 - ☐ raise an arm or leg up about 12 inches.



Use direct pressure and elevate.

BLEEDING

Use Direct Pressure!

Direct pressure will stop bleeding from nearly every wound, even if a hand or foot is cut off.

Patient should lie down while you stop severe bleeding. This treats him for shock at the same time.

[1] Press Down Hard on the Wound.

- Use:
 - ☐ a sterile cloth, or
 - ☐ a clean cloth, or
 - ☐ your bare hand until you can get a cloth.
- With a head or face wound, press the cloth firmly enough to control bleeding, but not so hard that it could push pieces from a broken bone into the brain.

[2] If cloth gets wet with blood:

- Do not remove it.
 - ☐ removing it may make the bleeding worse.
- Place another cloth on top of it, and keep pressing on the wound.
- The severe bleeding will usually stop within a few minutes.

[4] After severe bleeding has been stopped:

- Check vital signs (P, BP).
 - ☐ if shock (weak, fast pulse; low BP), go to p.7.
- If possible, check P & BP with patient lying down, then sitting up.
 - ☐ treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.
- Get more history and examine patient as in other parts of this manual. Examples:
 - ☐ patient with unknown injuries, p.8.
 - ☐ head injury, p.259.
 - ☐ wounds, p.339.

Seldom Needed Methods

Direct pressure should stop every bleeding wound you see. If you can NOT stop severe bleeding with direct pressure:

- Have a helper contact your referral doctor.

- You may decide to use one of the following seldom needed methods while you *continue to use direct pressure!*

Pressure Point

Pressure points are places on the body where you can feel a pulse (p.370).

- Pressing one of them may help to control a bleeding area beyond where you feel the pulse.

Do the following:

- Press with your hand where you feel the pulse.
 - ☐ you may control bleeding by squeezing an artery between your fingers and a bone.
- After the bleeding stops, slowly stop the pressure.

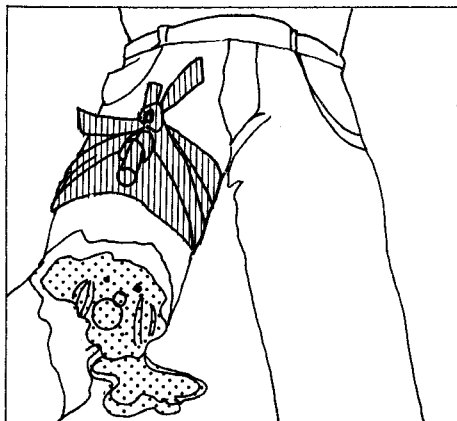
Last Resort: Tourniquet

Tourniquet: Save a life; lose a limb. If you decide to apply a tourniquet (used on an arm or leg):

- Try again to contact your referral doctor before putting on a tourniquet.
- Keep using direct pressure.

Apply a tourniquet as close to the wound as possible (apply between the wound and the body):

- The tourniquet should be 3-4 inches wide (at least 2 inches wide) to prevent a lot of damage to nerves and blood vessels. Examples: Use a folded cloth or a wide belt.
 - ☐ or, instead of following these steps, you may decide to inflate a blood pressure cuff, just enough to stop the bleeding.
- Wrap tourniquet around limb two times tightly, and tie a knot.
- Put in a stick to turn, and tie a knot on top of it.
- Twist the stick just enough to stop the bleeding. No more pressure is needed!
- Tie or tape the stick in place.
- Write down the time when you applied the tourniquet.
- Do not cover the tourniquet or hide it in any way.



- If you still can NOT reach a doctor, do the following:
 - ☐ after bleeding is stopped for 10 minutes, slowly release the tourniquet over the next 5 minutes.
 - ☐ if severe bleeding starts again, tighten the tourniquet again.
 - ☐ remove tourniquet as soon as possible.

SHOCK

Begin here if you think patient has shock (weak, fast pulse; low BP).

Do NOT begin here if severe allergic reaction. This patient needs EPINEPHRINE. Now go to p.8.

[1] Begin emergency care, including the following:

- Check ABC's (Airway, Breathing, Circulation).
- Use direct pressure to control severe bleeding (p.6).
- Reassure patient.
- Have a helper position patient so that he is lying down with feet elevated:
 - ☐ place feet about 12 inches higher than head, to allow more blood to flow to brain.
 - ☐ if patient has head injury or shortness of breath, it is better for him to lie flat, or even to sit up a little.

- Keep the patient warm, but not hot. Have a helper:
 - ☐ remove wet clothes.
 - ☐ place blankets over and under patient.

[2] Check vital signs: P, R, BP.

- If abnormal heart rate or rhythm, consider that this may be causing shock. Now go to p.23.

[3] Decide if treatment is needed.

- *If patient feels OK and has no obvious blood or fluid loss:*
 - ☐ observe.
 - ☐ you do NOT have to treat for shock.
 - ☐ this may just be low BP with standing (postural hypotension). While you are waiting to report, treat the same as for fainting (p.284).
- *For other patients,* continue to follow this plan.

[4] Report. Have someone contact your referral doctor and arrange for transport to hospital while you follow this plan.

[5] Give OXYGEN. Follow guidelines on p.435.

[6] If patient has chest pain OR possible heart failure (p.42), do not apply MAST Suit® or give I.V. fluids. Additional treatment depends on your referral doctor's assessment:

- *If chest pain,* the doctor may suggest giving some I.V. fluid or trying MAST Suit® if on exam you find NO signs of heart failure:
 - ☐ neck veins NOT full, with patient sitting up straight.
 - ☐ breath sounds: NO rales.
 - ☐ lower legs: NO pitting edema.

[7] Apply MAST Suit® (pneumatic anti-shock garment), if available.

[8] Start an I.V. (p.427).

- Use a LACTATED RINGER'S or 0.9% SODIUM CHLORIDE solution, if available.
- Run I.V. at a fast rate. Adjust the rate as on p.433 ("If patient is in shock").

- If you can NOT start an I.V., transport is delayed, and patient is awake and able to swallow without choking, give sips of clear liquids often (p.75).

Chart A

SHOCK: TYPICAL FINDINGS

Shock = failure of the body's circulation to get enough blood and oxygen to the tissues.

History:

- Anxious (nervous).
- Thirsty.
- Nauseated.
- Weak, tired.
- Dizzy/faint.

Exam:

- Skin:
 - ☐ pale; may have blue color of lips and nails (cyanosis).
 - ☐ cool, moist (sweaty).
- Changes in mental status (mind): sleepy, confused, anxious or excited.
- Pulse:
 - ☐ weak and fast:

Age	Pulse
Less than 1 year	180 or more
1-2 yrs.	160 or more
3-7 yrs.	120 or more
8 yrs. or more	100 or more

- ☐ when patient sits up, pulse gets higher by more than 20.
- BP: Low or falling.
 - ☐ lower than patient's normal BP.
 - ☐ or, if you do not know patient's normal BP, if systolic BP (top number) is below 90 in an adult who has symptoms of shock, this is considered shock.
 - ☐ when patient sits up, systolic BP (top number) gets lower by more than 10.

[9] Treat the cause of the shock, in consultation with your referral doctor.

Causes of Shock

- Loss of blood or body fluid is the usual cause. Examples:
 - ☐ bleeding (from skin wound or bleeding *inside* the body).
 - ☐ burns "oozing" clear fluid.
 - ☐ vomiting/diarrhea.
- Heart failure (p.42), where the heart can not pump blood well enough. Blood pressure gets low, and not enough oxygen gets to the tissues.
- Severe allergic reaction (anaphylaxis; p.8).
- Severe bacterial infection.
- Less common, usually temporary others: spinal cord injury, fear, pain.

SEVERE ALLERGIC REACTION (Anaphylaxis)

SEVERE ALLERGIC REACTION: TYPICAL FINDINGS

History:

- Usually caused by:
 - ☐ injection of a medicine (often PENICILLIN).
 - ☐ a bee or wasp sting.
- Rarely caused by eating or breathing in something.
- Itching.
- Swelling of the face and throat.
- Shortness of breath (chest tightness).

Exam:

- General appearance:
 - ☐ scared.
 - ☐ short of breath (due to swelling in throat).
- Vital signs:
 - ☐ pulse: fast.
 - ☐ BP: usually low (shock).
- Chest: May have wheezing.
- Skin: May have hives and swelling.

[1] Begin Emergency Care as follows:

- Check ABC's (Airway, Breathing, Circulation).
 - ☐ give CPR if needed.
- Give EPINEPHRINE:

Give *subcutaneous* shot of
EPINEPHRINE 1:1000.

Weight	Approximate Age	Dose
Less than 22 lbs.	Less than 1 yr.	Consult doctor.
22-34 lbs.	1-3 yrs.	0.1 ml.
35-54 lbs.	4-7 yrs.	0.2 ml.
55-79 lbs.	8-10 yrs.	0.3 ml.
80-109 lbs.	11-13 yrs.	0.4 ml.
110 lbs. or more	14 yrs. or more	0.5 ml.

- Rub where you gave shot.
- Repeat shot every 5-10 minutes, if needed, up to a total of 4 doses.

[2] Other plan should include the following:

- Vital signs: P, R, BP.
- If patient is not getting better after EPINEPHRINE and has shock (weak, fast pulse; low BP), treat for shock (p.7).
- Now go to p.325. Follow the plan for "Allergic Reaction."

Severe Allergic Reaction: General Information

In order to become allergic to a drug, a person must first be exposed to that drug. This means that patient may have had that medicine or a similar medicine before without having a problem.

Prevention should include the following:

- Before you give any drug, ask every patient, "Are you allergic to...?"
- Carry an EPINEPHRINE Tubex® in your home visit bag.
- For all ages memorize the dosage of EPINEPHRINE to give for a severe allergic reaction.

- Order enough EPINEPHRINE Tubex® syringes to treat 2 patients (at least 8-16 cartridges).

ACCIDENT PATIENT (Primary and Body Survey)

Begin here to examine patient:

- With unknown injuries.
- Patient has been hurt badly.

Summary ACCIDENT PATIENT

1. Primary Survey:
 - Shake & shout.
 - Open Airway.
 - Check Breathing.
 - Check Circulation.
 - Control severe bleeding.
2. Vital Signs: T, P, R, BP.
3. Get history quickly.
4. Body Survey:
 - General appearance/level of consciousness.
 - Head.
 - Eyes.
 - Ears and Nose.
 - Mouth.
 - Neck.
 - Chest.
 - Shoulders and Arms.
 - Abdomen.
 - Back.
 - Pelvis and Buttocks.
 - Legs.
5. Make Assessment and Plan.

General Approach

If you must move an accident patient before you examine him completely:

- First do primary survey.
- Try to get help.
- Move him very carefully.

Consider that this patient may have a spine injury.

- Treat for spine injury especially in these cases:
 - ☐ unconscious patient.
 - ☐ head injury.
 - ☐ driving accident.
 - ☐ diving accident.
 - ☐ fall.
 - ☐ airplane accident.
- Keep patient's neck and back straight during your whole exam.
- When possible (after primary survey), splint neck and back to prevent movement (p.243).

Plan to recheck level of consciousness often. Write down and report changes, getting worse.

1. Primary Survey

Do the primary survey as soon as you see patient.

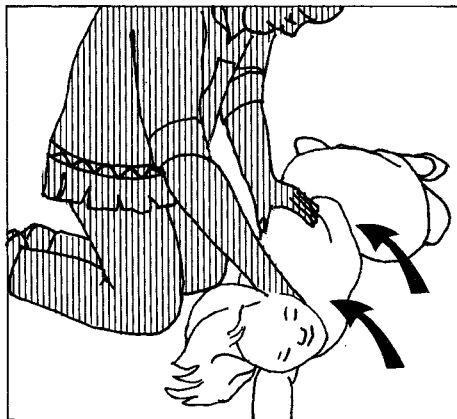
- You are looking for life-threatening problems.
- Remember the ABC's: Airway, Breathing, Circulation.

1.1 Shake and shout:

- Gently shake and shout to see if patient is unconscious.
- If patient is awake and speaking, now go to step 1.5 ("Control severe bleeding").
- If patient is unconscious, yell for help.

1.2 Open airway:

- If patient is not lying flat on his back, roll him over carefully, keeping his neck and back straight.



- Push jaw forward (jaw-thrust) *without* moving the neck (shown on p.4).
- Keep airway open. If jaw thrust is not working, it may help to suction patient's mouth with bulb syringe or wipe out his mouth.

1.3 Check Breathing:

- Look/listen/feel for breathing, for 3-5 seconds.
- *If patient IS breathing:*
 - ☐ if there is any sign of breathing trouble, quickly *look at* the chest for injury.
 - seal a sucking chest wound NOW (p.293).
 - ☐ go to step 1.5 ("Control severe bleeding").
- If patient is NOT breathing, give two full breaths.

1.4 Check Circulation:

- Feel for the pulse for 5-10 seconds.
 - ☐ if child or adult, check neck (carotid pulse, p.4).
 - ☐ if infant (up to one year), check upper arm (brachial pulse, p.4).
- If you can NOT feel a pulse, start chest compressions (CPR, p.4).
- If you DO feel a pulse:
 - ☐ do NOT do CPR.
 - ☐ continue rescue breathing, if needed.

1.5 Control severe bleeding:

- Use direct pressure.
- If an arm or leg is cut, lift it up as you apply pressure.
 - ☐ if this does NOT work, see p.6 ("Bleeding").

2. Vital Signs: T, P, R, BP

2.1 You may decide to check vital signs while you are getting history or doing the body survey.

- If shock (weak, fast pulse; low BP) treat as on p.7.

3. Get History Quickly

You may decide to examine while you ask questions.

3.1 Get general history of present illness (inside cover). Also ask the

following specific questions:

- Exactly what happened? Examples:
 - ☐ how far did patient fall?
 - ☐ how fast was he going?
 - ☐ where was he hit, or how did he land?
 - ☐ did he get cut with something dirty?
 - ☐ was he unconscious?
 - What caused the injury?
 - Was it related to alcohol or other drugs?
 - What is the problem like now?
 - ☐ can patient move the injured part?
 - ☐ does moving it hurt?
 - When did patient eat last?
- ### 3.2 Past Health History
- Has patient had an injury to the same area before?
 - Illnesses?
 - What medicines is patient taking now?
 - Allergies?
 - When was last TETANUS shot?

4. Body Survey

The body survey (secondary survey) is a head to toe exam.

- You should work calmly but quickly.
 - ☐ this exam should take less than five minutes.
- Stop the body survey only to treat life-threatening problems.
 - ☐ be ready to do CPR!

4.1 General appearance/level of consciousness.

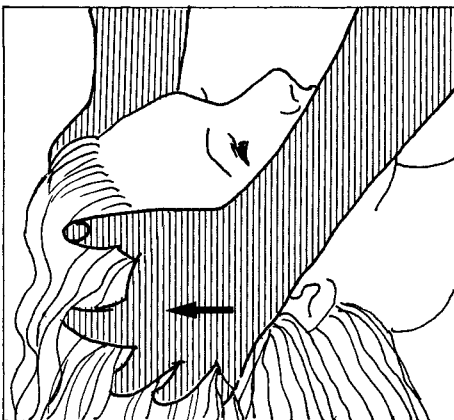
- Note level of consciousness. For example, is patient:
 - ☐ wide awake?
 - ☐ sleepy or confused?
 - ☐ unconscious?
- If very sleepy (very hard to wake up) OR if unconscious:
 - ☐ after splinting neck, lay patient on his side to help prevent choking on vomit.
- *If unconscious*, will patient respond to anything?
 - ☐ to voice calling his name?
 - ☐ to pain?
 - squeeze shoulder-to-neck muscle.

- press/rub breastbone (sternum) hard with your knuckle.

- If patient responds, how does he respond?
 - ☐ by the look on his face?
 - ☐ by groaning?
 - ☐ by moving in some way, such as pushing you away?
 - ☐ by talking?
 - ☐ by waking up?
 - ☐ by doing something else?

4.2 Head.

- Appearance.
 - ☐ bruising under the eye or behind the ear is a sign of serious head injury.
 - ☐ if there is blood in patient's hair, gently move hair apart to see wound.
- Feel the whole head for injuries. Check gently if you think the bone may be broken.
- If possible neck injury:
 - ☐ to examine the part of patient's head that is touching the ground, slide your fingers under his neck.
 - ☐ next, slide your fingers toward the top of patient's head. This will give you a little pull on the neck. It will protect the neck while you feel for head injuries, as in the next drawing.
 - ☐ before you relax your pull on the neck, have a helper be sure that the cervical collar is still in place and that the head is secured to a backboard.



Feel scalp for injuries.

4.3 Eyes:

- Pupils:
 - ☐ equal in size?
 - ☐ round?
 - ☐ react to light?
- If patient is conscious:
 - ☐ ask him if he can see as usual. Check 1 eye at a time.
 - ☐ can he move his eyes in all directions?

4.4 Ears and Nose:

- Look in both ears and in both sides of the nose.
 - ☐ finding clear spinal fluid or blood could mean a broken skull.

4.5 Mouth:

- Look inside the mouth for injuries.
- Note unusual smell of breath.
- Remove blood clots, broken teeth, etc.

4.6 Neck:

- If possible neck injury, be very careful. Do NOT move the neck.
- Look for injuries.
- Feel for injuries and tenderness.

4.7 Chest.

- Do not move the back out of line.
- Loosen clothing so you can see any hidden wounds or bruises.
- Look to see if the chest is rising the same on both sides.
- Feel the breast bone, and the ribs for injuries.
- Listen with your stethoscope.
 - ☐ compare both sides of the body.

4.8 Shoulders and Arms:

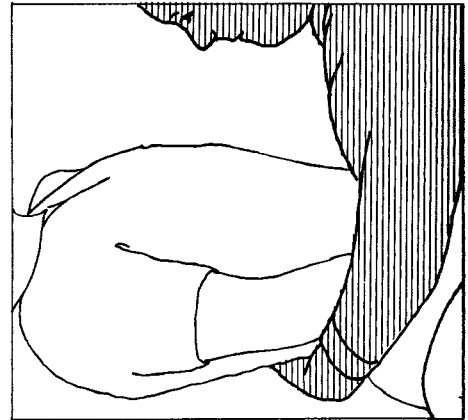
- Appearance.
- Feel the collarbone, then shoulder, then down the whole arm (including hand) for broken bones or tenderness.
- If possible broken arm bone, check pulse at wrist.
- If the patient is conscious, test him for feeling, movement, and weakness.
 - ☐ can he feel your touch or a poke with a safety pin on his hands?
 - ☐ have patient wiggle his fingers and squeeze two of your fingers in each hand.
 - if he can not move them, is it because of pain OR because he just can not make them work (may be a spinal cord injury)?

4.9 Abdomen. Abdominal injuries are often missed.

- Bowel sounds.
- Feel all areas for injury, tenderness, and hardness, even if patient is unconscious.

4.10 Back:

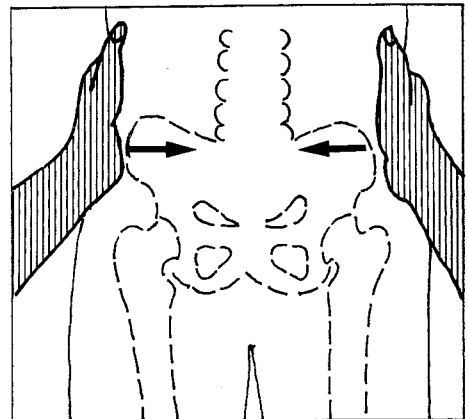
- If you are sure patient has no spine injury, roll him toward you to carefully examine his back.
- If you suspect a spine injury, just feel for:
 - ☐ tenderness.
 - ☐ wet spots (may be blood).



Feel for tenderness and bleeding.

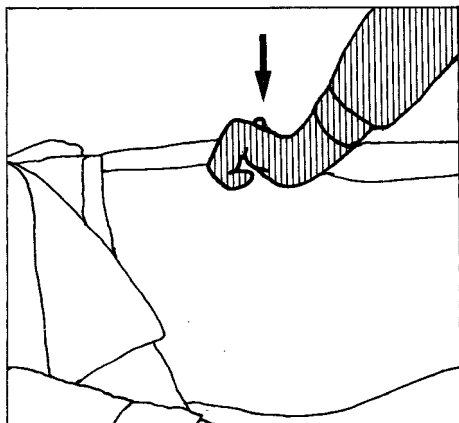
4.11 Pelvis and Buttocks:

- Gently check the pelvis (pelvic bone) for tenderness.
 - ☐ squeeze (compress) from side to side.



Compress pelvis from side to side.

- ☐ compress from front to back. Press down on pubic bone.



Press down on pubic bone.

- Feel for hidden injuries under the buttocks.
- Did patient have a bowel movement or pass urine? This can be a sign of injury.

4.12 Legs:

- Appearance:
 - ☐ if one leg looks shorter than the other, this usually means a break or dislocation.
- Feel each leg and foot for broken bones or tenderness.
- Check for pulse on each foot.
- If patient is conscious, test him for feeling, movement, and weakness.
 - ☐ can he feel your touch or a poke with a safety pin on his feet?
 - ☐ have patient wiggle his toes and push down against your hands with his feet.
 - if he can not move them, is it because of pain OR because he just can not make them work (may be a spinal cord injury)?
- If unconscious, check for the same movement and reaction on both sides of body.
 - ☐ poke with a safety pin on soles of feet.

5. Make Assessment and Plan

5.1 If broken bone, splint (p.249) before moving patient.

5.2 Clean and bandage wounds (p.342).

5.3 Report to your referral doctor for more advice.

If you can NOT reach a doctor,

- Follow this plan until you can.
- If you think patient needs emergency care at the hospital, have someone arrange for transport.

5.4 If serious injury, while you are waiting to transport:

- Stay with patient.
- Observe closely.
- Recheck often:
 - ☐ Airway, Breathing, Circulation
 - ☐ vital signs (P, R, BP).
 - ☐ level of consciousness, mental status (mind).

5.5 Be sure to write down the results of your exams.

- Every time you take vital signs:
 - ☐ write them down.
 - ☐ write down the time they were taken.

5.6 Be complete. Refer to other parts of this manual for more specific assessments and plans. Examples:

- Near drowning, p.5.
- Serious wounds, p.339.
- Head injury, p.259.
- Eye injury, p.101.
- Broken nose, p.296.
- Neck or spinal cord injury, p.242.
- Chest injury, p.291.
- Abdominal injury, p.61.
- Broken bone or dislocation, p.237.
- Burn, p.331.
- Frostbite, p.336.
- Hypothermia (low temperature), p.335.

POISONING OR DRUG OVERDOSE

General Approach

If you are not sure that patient took poison or an overdose, treat him as if he did!

If patient tried to kill himself, have someone stay with patient until you and referral doctor think the emergency is over.

1. Begin Emergency Care

1.1 For Every Poisoning or Overdose

Do the following:

- Watch ABC's: Airway, Breathing, Circulation.
- If very sleepy (very hard to wake up) OR if unconscious:
 - ☐ lay patient on his side to help prevent choking on vomit.
 - ☐ first, give the same emergency care as for any unconscious patient. Now go to p.275.
- Check vital signs (P, R, BP) as you follow this plan.
- Give OXYGEN if needed (shortness of breath or blue color).
 - ☐ follow guidelines on p.435.
- Try to find out quickly:
 - ☐ *what* exactly did patient take? **Get the container if possible.**
 - ☐ *how much* did he take?
 - ☐ *when* did he take it?

1.2 Next, Make a Specific Assessment and Emergency Plan

Go to the correct plan listed below:

POISONING BY MOUTH:

- **Any drug or medicine, and most other poisons:** **Plan 2.**
- **Strong chemical** (acid, lye, ammonia, washing powder, paint remover, other): **Plan 3.**
- **Petroleum product** (kerosene, gasoline, fuel oil, lighter fluid, turpentine, paint thinner, other): **Plan 4.**
- **Unknown substance:** **Plan 5.**

POISON BREATHED IN (fumes, carbon monoxide, glue, other): **Plan 6.**

POISONING BY INJECTION (shot of heroin, morphine, other): **Plan 7.**

2. Plan: Poisoning by Mouth With Any Drug or Medicine, and Most Other Poisons

2.1 If Patient Can NOT Swallow Without Choking

This includes the very sleepy patient:

[1] Do a body survey (p.9).

[2] Report NOW to your referral doctor.

If you can NOT reach a doctor, follow this plan until you can.

[3] The doctor may advise you to insert a stomach (NG) tube (p.85).

If so, do the following:

- Keep patient lying on his side, in case he vomits.
- Irrigate patient's stomach with 2-3 quarts of water (p.86).
 - ☐ you should get out about the same amount that you put in.
 - ☐ look to see what you get out.
- Give **ACTIVATED CHARCOAL** (p.15) mixed with water or SORBITOL through the stomach tube. Dose:
 - ☐ 0-5 years: ½ cup.
 - ☐ 6 yrs or more: 1 cup.
- If you did NOT give SORBITOL along with the ACTIVATED CHARCOAL, next, give a strong laxative through the stomach tube:

Give a child ¼ to ½ of the adult dose, depending on size of child.

Give an adult a strong laxative, such as ONE of the following choices:

1. **MAGNESIUM CITRATE.**
 - Dose: One bottle (8-10 ounces).
2. **MILK OF MAGNESIA.**
 - Dose: 90 ml. (6 Tablespoons).
3. **EPSOM SALTS (MAGNESIUM SULFATE).**
 - Dose: Consult doctor (usually twice the dose written on a store bought container).

- Once the medicine is in, remove the tube.
- If patient does not have a bowel movement within two hours, your

referral doctor may suggest that you repeat the laxative dose one time.

[4] Next, go to plan 8 ("Additional General Plan").

2.2 If Patient Is Awake and Can Swallow Without Choking

[1] MAKE PATIENT VOMIT, unless he took lye, acid, or a petroleum product.

- Give **IPECAC syrup** (p.15):

Age	Dose of IPECAC
11 mo. or less	10 cc. (1/3 of the 30 ml. bottle)
1-11 yrs.	15 cc. (1/2 of the 30 ml. bottle)
12 yrs. or more	30 cc. (all of the 30 ml. bottle)

- Next, have patient drink water. This will help to make patient vomit well:
 - ☐ 0-5 yrs: ½ to 1½ cups.
 - ☐ over 5 years: 1½ to 3 cups.
- Do NOT let patient lie down until he has vomited.
- If patient does not vomit in 20 minutes, repeat the dose of IPECAC and water.
 - ☐ if patient does not vomit after second dose, do NOT repeat the dose again.
- Check to see what the vomit looks like. Do you see any pills?

[2] After patient stops vomiting, give ACTIVATED CHARCOAL (p.15) mixed with water or SORBITOL. Dose:

- 0-5 years: ½ cup.
- 6 yrs or more: 1 cup.

[3] If you did NOT give SORBITOL along with the ACTIVATED CHARCOAL, next, give a strong laxative:

Give a child ¼ to ½ of the adult dose, depending on size of child.

Give an adult a strong laxative, such as ONE of the following choices:

1. **MAGNESIUM CITRATE.**
 - Dose: One bottle (8-10 ounces).
2. **MILK OF MAGNESIA.**
 - Dose: 90 ml. (6 Tablespoons).

3. EPSOM SALTS (MAGNESIUM SULFATE).

- Dose: Consult doctor (usually twice the dose written on a store bought container).

- Plan to repeat the laxative dose one time, if patient does not have a bowel movement within two hours.

[4] Do a body survey (p.9).

[5] Report NOW to your referral doctor.
If you can NOT reach a doctor, go to plan 8 ("Additional General Plan").

3. Plan: Poisoning by Mouth With Strong Chemical (acid, lye, ammonia, washing powder, paint remover, other)

These chemicals may damage throat, esophagus, or airway if swallowed or vomited.

3.1 If Patient Can NOT Swallow Without Choking

This includes the very sleepy patient:

[1] Do a body survey (p.9).

[2] Report NOW to your referral doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.
- Have someone arrange for transport to hospital as soon as possible.
- Now go to plan 8 ("Additional General Plan").

3.2 If Patient Is Awake and Can Swallow Without Choking

[1] Have patient drink some water or milk:

- Child: ¼ to ½ cup.
- Adult: 1 cup.

[2] Give nothing more by mouth.

- DO NOT MAKE PATIENT VOMIT!
- If patient vomits on his own, give him water or milk by mouth to rinse chemical from throat.

[3] Do a body survey (p.9).

[4] Report NOW to your referral doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.

- Have someone arrange for transport to hospital as soon as possible.

[5] Treat severe pain (if NOT in shock) with I.M. MEPERIDINE (Demerol®) or MORPHINE (p.417).

[6] Now go to plan 8 ("Additional General Plan").

4. Plan: Poisoning by Mouth With Petroleum Product (kerosene, gasoline, fuel oil, lighter fluid, turpentine, paint thinner, other)

This patient may have severe breathing problems and seizures.

4.1 If Patient Can NOT Swallow Without Choking

This includes the very sleepy patient:

[1] It may help for patient to lie with head lower than body, to prevent him from breathing in vomit (causes severe lung problems).

[2] Do a body survey (p.9).

[3] Report NOW to your referral doctor.

If you can NOT reach a doctor,

- Follow this plan until you can.
- Have someone arrange for transport to hospital as soon as possible.
- Stay with patient. Watch closely.
- Now go to plan 8 ("Additional General Plan").

4.2 If Patient Is Awake and Can Swallow Without Choking

[1] Have patient drink some water:

- Child: ½ to 1 cup.
- Adult: 1-2 cups.

[2] DO NOT MAKE PATIENT VOMIT!

- It is very important that this patient does not breathe any petroleum product into his lungs.

• **If patient vomits on his own,**

- ☐ hold a child on your lap. Place him on his abdomen, with his head down lower than his hips.
- ☐ give water by mouth to rinse chemical from throat.

[3] Do a body survey (p.9).

[4] Report NOW to your referral doctor. He *may* advise you to *carefully*

make patient vomit in the following cases:

- If patient drank over ½ ml. of petroleum product for every pound that he weighs and there was nothing else in the product that would damage throat or airway if vomited.
- If patient took camphor, an insecticide, or something similar.

If you can not reach a doctor:

- Do NOT make patient vomit. Go on to the next steps in this plan.
- Have someone arrange for transport to hospital as soon as possible.

[5] Give **ACTIVATED CHARCOAL** (p.15) mixed with water or SORBITOL. Dose:

- 0-5 years: ½ cup.
- 6 yrs or more: 1 cup.

[6] *If you did NOT give SORBITOL* along with the ACTIVATED CHARCOAL, next, give a strong laxative:

Give a child ¼ to ½ of the adult dose, depending on size of child.

Give an adult a strong laxative, such as ONE of the following choices:

1. **MAGNESIUM CITRATE.**
 - **Dose: One bottle** (8-10 ounces).
2. **MILK OF MAGNESIA.**
 - **Dose: 90 ml.** (6 Tablespoons).
3. **EPSOM SALTS** (MAGNESIUM SULFATE).
 - Dose: Consult doctor (usually twice the dose written on a store bought container).

- Plan to repeat the laxative dose one time, if patient does not have a bowel movement within two hours.

[7] While you are waiting to transport, go to plan 8 ("Additional General Plan").

5. Plan: Poisoning By Mouth With Unknown Substance

General Approach

Do not waste time. Treat NOW! Have a helper try to find out:

- *What* exactly did patient take? Get the container, if possible.
- *How much* did he take?
- *When* did he take it?

DO NOT MAKE PATIENT VOMIT.

If patient does vomit and you see pills, patient probably took an overdose of some medicine. In this case, go to plan 2 ("Poisoning by Mouth With Any Drug or Medicine, and Most Other Poisons").

5.1 If Patient Can NOT Swallow Without Choking

This includes the very sleepy patient:

[1] Do a body survey (p.9).

[2] Report NOW to your referral doctor.

If you can NOT reach a doctor, now go to plan 8 ("Additional General Plan").

5.2 If Patient Is Awake and Can Swallow Without Choking

[1] Have patient drink some water:

- Child: ½ to 1 cup.
- Adult: 1-2 cups.

[2] DO NOT MAKE PATIENT VOMIT!

[3] If patient vomits on his own:

- Give him water or milk by mouth to rinse chemical from throat.

[4] Give **ACTIVATED CHARCOAL** (p.15) mixed with water or SORBITOL. Dose:

- 0-5 years: ½ cup.
- 6 yrs or more: 1 cup.

[5] *If you did NOT give SORBITOL* along with the ACTIVATED CHARCOAL, next, give a strong laxative:

Give a child ¼ to ½ of the adult dose, depending on size of child.

Give an adult a strong laxative, such as ONE of the following choices:

1. **MAGNESIUM CITRATE.**
 - **Dose: One bottle** (8-10 ounces).
2. **MILK OF MAGNESIA.**
 - **Dose: 90 ml.** (6 Tablespoons).
3. **EPSOM SALTS** (MAGNESIUM SULFATE).
 - Dose: Consult doctor (usually twice the dose written on a store bought container).

[6] Do a body survey (p.9).

[7] Report NOW to your referral doctor. If you can NOT reach a doctor, go to plan 8 ("Additional General Plan").

6. Plan: Poison Breathed In (fumes, carbon monoxide, glue, other)

6.1 Move patient into fresh air.

6.2 Keep airway open. Give rescue breathing if needed.

6.3 Keep patient warm and lying down to prevent shock.

6.4 Give OXYGEN (p.435).

6.5 Do a body survey (p.9).

6.6 Report NOW to your referral doctor.

If you can NOT reach a doctor, now go to plan 8 ("Additional General Plan").

7. Plan: Poisoning by Injection (shot of heroin, morphine, other)

This is NOT the treatment for a severe allergic reaction (p.8).

7.1 Do a body survey (p.9).

7.2 Report NOW to your referral doctor.

If you can NOT reach a doctor, follow this plan until you can.

7.3 *If patient is becoming very sleepy:*

- Give medicine that may help to wake him up if he took a narcotic (such as heroin or morphine):

Give I.M. shot of NALOXONE (Narcan® ; 0.4 mg./ml.).

Weight	Approximate Age	Dose
14 lbs. or less	3 mo. or less	0.08 mg. (0.2 cc.)
15-24 lbs.	4-17 mo.	0.16 mg. (0.4 cc.)
25-34 lbs.	18 mo. - 3 yrs.	0.24 mg. (0.6 cc.)
35-49 lbs.	4-6 yrs.	0.4 mg. (1.0 cc.)
50-64 lbs.	7-8 yrs.	0.48 mg. (1.2 cc.)
65 lbs. or more	9 yrs. or more	2.0 mg. (5 cc.)

- After five minutes, if patient is still very sleepy or unconscious, repeat this dose one time.

- Quickly check blood sugar (glucose).
 - ☐ if low blood sugar (less than 80 on Chemstrip® or less than 90 on Dextrostix®), give sugar as on p.59.
 - ☐ if you can NOT check blood sugar quickly AND if patient has history of diabetes or recent history of drinking a lot of alcohol, give sugar as on p.59.

7.4 Watch patient closely.

- He may stop breathing, especially if he was drinking alcohol, too.
- Be ready to do CPR, if needed.

7.5 Now go to plan 8 ("Additional General Plan"), which follows.

8. Additional General Plan (for poisoning/overdose when you can not reach the doctor)

8.1 First, follow the correct emergency plan above (see step 1.2).

8.2 If you think patient needs emergency care at the hospital and you can NOT reach a doctor:

- Have someone arrange for transport.
- Start an I.V. (p.427). Run it at "maintenance rate." The doctor may suggest that you run it at a faster rate.
- While you are waiting to transport, continue to follow this plan.

8.3 Have someone observe patient. If patient is not doing well, recheck vital signs at least every 30 minutes: P, R, BP.

8.4 Get more advice:

- Call Poison Control Center:
 - ☐ Anchorage: 261-3193 or 800-478-3193.
 - ☐ Fairbanks: 456-7182.
- Look in a poisoning handbook.

8.5 Prevent shock (weak, fast pulse; low BP):

- Elevate feet.
- Keep patient warm.

8.6 Other plan:

- If patient is very sleepy or unconscious:
 - ☐ consider other assessments, the same as for any unconscious patient (p.275).
 - ☐ follow other guidelines for "Special Care for the Unconscious Patient," p.279.
- Also go to "9. Additional Plan," below, *if the patient took one of the following medicines:*
 - ☐ ASPIRIN.
 - ☐ IRON or VITAMINS with IRON.
 - ☐ ISONIAZID (INH).
 - ☐ narcotics, sedatives, tranquilizers.
- If patient tried to commit suicide, after you have treated for poisoning, go to p.201, "Mental Health Emergency."
- When the time is right, remember to talk about poisoning prevention (found at the end of this section).

9. Additional Plan for Certain Drugs/Medicines taken by mouth, (when you can NOT reach a doctor)

9.1 Aspirin

[1] First, follow plan 2 ("Poisoning By Mouth: Any Drug or Medicine, and Most Other Poisons").

[2] Give patient enough liquid to keep up a large output of urine. Aspirin will come out in the urine.

[3] If needed, control high fever with sponge baths. Use water that is body temperature (NOT cold water).

9.2 Iron or Vitamins With Iron

[1] First, follow plan 2 ("Poisoning By Mouth: Any Drug or Medicine, and Most Other Poisons").

[2] To protect the stomach, it may help if patient drinks some milk.

[3] Arrange for transport to hospital. This patient may go into shock up to 3 days after iron poisoning!

9.3 Narcotics, Sedatives, and Tranquilizers

[1] First, follow plan 2 ("Poisoning By Mouth: Any Drug or Medicine, and Most Other Poisons").

[2] Watch patient closely:

- He may stop breathing, especially if he was drinking alcohol, too.
- Be ready to do CPR, if needed.
- *If patient is becoming very sleepy and you can NOT reach the doctor, give medicine that may help to wake up patient:*

Give I.M. shot of **NALOXONE** (Narcan®; 0.4 mg./ml.).

Weight	Approximate Age	Dose
14 lbs. or less	3 mo. or less	0.08 mg. (0.2 cc.)
15-24 lbs.	4-17 mo.	0.16 mg. (0.4 cc.)
25-34 lbs.	18 mo. - 3 yrs.	0.24 mg. (0.6 cc.)
35-49 lbs.	4-6 yrs.	0.4 mg. (1.0 cc.)
50-64 lbs.	7-8 yrs.	0.48 mg. (1.2 cc.)
65 lbs. or more	9 yrs. or more	2.0 mg. (5 cc.)

- After five minutes, if patient is still very sleepy or unconscious, repeat this dose one time.

9.4 Isoniazid (INH)

[1] First, follow plan 2 ("Poisoning By Mouth: Any Drug or Medicine, and Most Other Poisons").

[2] Have someone arrange for transport to hospital as soon as possible.

[3] Give an I.V. injection of **PYRIDOXINE** (Vitamin B6), which should be available with your emergency drugs. Do not give I.V. medicine unless your referral doctor has signed for you to do this when you can not reach him.

- First start an I.V. (p.427).
- Dose: Give the *same number of mg.* of PYRIDOXINE as patient took of INH.
 - ☐ if you do not know how much INH patient took, give 5000 mg. (5 Gm.) of PYRIDOXINE.
- *The PYRIDOXINE should be given by I.V. injection* (p.434), slowly over several minutes.
- If you can NOT give the medicine by I.V. injection, try again to contact your referral doctor. He may advise you to put it into the rectum, like an enema, which may help.
- [4]** Your referral doctor may suggest that you give extra I.V. fluid. INH comes out in the urine.
- [5]** Repeat the dose of PYRIDOXINE in 2-6 hours if patient is not getting better.
- [6]** Watch patient closely. He may have a seizure.
 - If he has a seizure, give emergency care as for any seizure (p.270).

USE OF MEDICINES IN POISONING PLAN

Use of IPECAC Syrup:

Warning

DO NOT USE IPECAC IF PATIENT:

- Is unconscious or very sleepy. He may choke on the vomit.
- Took a chemical such as lye or acid which will burn or damage the throat.
- Took kerosene, gasoline or some other petroleum product.
- Took an unknown chemical.

Description and Uses

IPECAC causes vomiting.

- It is given to most patients who have taken by mouth a poison or an overdose of medicine.
- The patient must be awake and able to swallow without choking.
- It is given as soon as possible after poisoning.
- It is given *even* if patient vomits before you give it. IPECAC helps to get *more* poison out of the stomach.

Dose

Age	Dose of IPECAC
11 mo. or less	10 cc. (1/3 of the 30 ml. bottle)
1-11 yrs.	15 cc. (1/2 of the 30 ml. bottle)
12 yrs. or more	30 cc. (all of the 30 ml. bottle)

- After giving IPECAC, have patient drink water. This will help to make patient vomit well:
 - ☐ 0-5 yrs: 1/2 to 1 1/2 cups.
 - ☐ over 5 years: 1 1/2 to 3 cups.
- Keep patient sitting up.
 - ☐ let him walk around if he would like.
 - ☐ do NOT let patient lie down until he has vomited.
- If patient does not vomit in 20 minutes, repeat the dose of IPECAC.
 - ☐ if patient does not vomit after second dose, do NOT repeat the dose again.
- Check to see what the vomit looks like. Do you see any pills?

Use of ACTIVATED CHARCOAL

Warning

Do NOT give this drug along with or right after giving IPECAC. If you do this, the IPECAC will not work to make patient vomit.

Description and Uses

This sooty powder is mixed with water or SORBİTOL and given *as a drink* to most patients who have been poisoned by mouth.

- It is given as soon as possible, usually after patient finishes vomiting from IPECAC.
- It may even be helpful for someone who has taken a drug in some way other than by mouth.
- If patient took *only* iron, it will not help.

Charcoal Mixing Directions

If your pharmacy sends you charcoal already mixed with liquid, you do NOT need to add any more liquid.

If your pharmacy sends you the dry powder, you will need to mix it with water (50 Gm./240 ml.). Mix it as follows:

For a small bottle up to 500 ml. (2 cups). Example: Charcodote®:

[1] Add room temperature water, up to the neck of the bottle.

[2] Shake bottle until you are sure that all of the charcoal is wet.

- It will not dissolve completely, but it should at least be wet.
- It will be like thick soup.

For a larger amount of charcoal, do not mix the whole amount:

[1] Put 250 ml. (1 cup) of room temperature water in a bottle.

[2] Add some charcoal and mix it well.

[3] Add and mix more charcoal until it is like thick soup.

Dose

- 0-5 years: ½ of above mixture (½ cup).
- 6 years or more: All of above mixture (1 cup).
- If patient vomits the charcoal, repeat the dose.
- Your referral doctor may suggest that you repeat this dose, if patient took a lot of poison.

POISONING: PREVENTION

General Patient Education

General prevention follows three basic rules:

[1] Keep every poison in its *original* container, so:

- The poison will not look like it is something else.
- You can read the label if someone is poisoned.

[2] Check the prescription label before taking any medicine.

[3] Get rid of things once the need for them has passed: poison *and* used medicine.

- Burn them or put them in the toilet. Dogs or children may get into poisons put in the trash.

Patient Education Related to Children

This is important for those without children also, so that visiting children do not get poisoned:

[1] Keep all medicines and poisons in places where a child can not get to them.

- Remember that "safe" things taken the wrong way can be poisons. Examples: mouthwash, aspirin, poisonous plants.
- A *locked* cupboard is best.
- Do not keep medicines and poisons in the same cupboard.

[2] Keep medicines in containers with "child proof" caps.

[3] Do not tell a child that medicine is candy.

[4] Do not take medicine in front of a child. Children love to copy adults.

[5] Parents should:

- Check prescription labels before giving any medicine. A child can be poisoned if he is given medicine meant for an adult or if he is given the wrong dose.
- Keep IPECAC at home.

Prevention On the Job

[1] Give patients a *small amount* of medicine at a time, especially patients with mental health problems.

- Keep refills in the clinic until the patient needs them.

[2] Pick up unused medicine when you are on home visits.

[3] Ask patients to bring old medicines to the clinic for you to destroy.

- Burn these drugs or put them in the toilet.
- Dogs or children may get into poisons put in the trash.

[4] Check your emergency drugs and supplies. Make sure you have enough

on hand to treat at least 2 patients:

- IPECAC: 4 bottles.
- ACTIVATED CHARCOAL: 2 containers.
- MAGNESIUM CITRATE: 2 bottles; or other strong laxative.
- Water
- Stomach (NG) tubes.
- Emesis and wash basin.
- Large (70 cc.) Toomey syringes to irrigate.
- IV equipment and supplies.

[5] Include poisoning prevention as part of your teaching in well child clinic.

[6] Get poison prevention information from your:

- Regional health corporation.
- Referral hospital.
- Other sources, such as by writing to:
Anchorage Poison Center
Providence Hospital
3200 Providence Drive
Anchorage, Alaska 99504

[7] Ask for patient handouts or make copies of the patient education part of this section, if there is a copy machine that you can use.

[8] Encourage yearly school programs on poisoning prevention.

[9] Look for clues that might tell you a patient is at high risk to commit suicide (p.218).

- Consult your referral doctor for ways to make help available to this patient.

[10] If a patient has a poisoning problem related to alcohol or other drug abuse:

- Remind patient kindly of this.
- Talk with patient about the alcohol or drug problem. Follow the plan on p.204.

[11] If a child is poisoned and you think that the poisoning involves alcohol, abuse, or neglect,

- It is the law that you *must* report this poisoning.

[12] Talk with your pharmacist for other ideas.

SEXUAL ABUSE/RAPE

General Approach

As in any emergency:

- Treat life-threatening emergencies as soon as you find them.
- Next treat serious injuries.

Be sure to write a complete SOAP note.

Follow guidelines in your region. Use information in this section as needed.

1. Be Understanding and Supportive

1.1 Understand the normal reaction:

- If a person is sexually abused, he/she will often act in one of two ways:
 - ☐ controlled emotion: afraid, quiet, shy, feeling very ashamed, feeling like, "What did I do to cause this?"
 - ☐ uncontrolled emotion: crying, angry, violent, using lots of swear words.
- A rape victim may react by refusing to report the crime or to go to the hospital for a complete exam.
- These feelings may leave but come back again (maybe when the trooper arrives several hours later).

1.2 Be Supportive:

- The patient who has been sexually abused is going to be upset and will not know what to do.
 - ☐ if you understand that the way patient acts is normal, you can be supportive.
 - ☐ show patient that you understand and care.
- Be gentle.
- Help patient to talk about feelings. Follow general guidelines for talking and counseling (p.219).
 - ☐ the more that patient talks about it now, the better he/she will do in time.
 - ☐ reassure patient that it is not his/her fault.

2. Encourage a Legal Exam

2.1 This is the patient's decision, but your support can encourage patient to have a complete legal exam as soon as possible.

2.2 This exam should be done at the hospital.

- It is complicated legally.
- It requires lab equipment.

2.3 Exam must be done before it gets too late:

- The lab tests need to be done as soon as possible.
- If patient is in doubt about reporting the crime, he/she should have the exam, so that it can be reported in the future.
 - ☐ a patient can always decide *after* the exam not to report the crime.

3. Know About the Law

3.1 Sexual abuse is a crime.

- *All sexual abuse* is a serious crime.
- If patient is a child (minor) OR old person (age 65 or more), sexual abuse must be reported as soon as possible (p.197).
 - ☐ you can be held responsible for an injury to a child or old person (elder abuse) if you do not report abuse.

3.2 Contact your local police officer.

- The local police officer will tell you what should be done legally.
- The officer should come to your assistance as soon as possible.
 - ☐ it is better for you to get history and examine when the police officer is with you.

3.3 Work according to the law.

- Patient should NOT wash or douche before being checked legally.
- Clothing should NOT be changed unless there is a medical emergency.
- If you need to remove clothing to examine an injury:
 - ☐ have patient undress while standing on a paper sheet. Fold the sheet and place it in a paper (NOT plastic) bag.

- ☐ place each piece of clothing in a separate paper bag.
- ☐ for each bag, write the following on a piece of tape: name of what is inside, date, time, and your signature.
- ☐ seal the bag with this tape in a way so you will know if the seal has been broken.
- ☐ keep the bags in your possession until a police officer arrives.
- ☐ the officer will fill out the forms needed for him to take the clothes.
- If there is any other evidence that might be used, keep it in your possession until you turn it over to a police officer.

4. History

4.1 If a police officer is not present:

- Have patient write down everything that happened, exactly as he/she remembers it.
- Many times a patient will tell more of the history to you than to a police officer.

4.2 Get general history of present illness (inside cover).

- Try not to ask "why" questions.

4.3 Ask woman: "Are you using any birth control now?" If so, what kind?

5. Exam

Be gentle with any exam that you do. If the crime is to be reported, remember that patient should go to the hospital for a complete legal exam.

5.1 General appearance.

- Note any obvious injuries, such as bruises, cuts, bleeding.

5.2 Vital signs: P, R, BP.

5.3 If needed, do a body survey to check for injuries (p.9).

- It may help to make a drawing to show where an injury is located.
- Examine other parts of the body in more detail, depending on patient's complaints.

6. Assessment

6.1 Your assessment should be:

Sexual abuse,

Rape,

or something similar.

7. Plan

7.1 Report. You have contacted the police officer for your village and followed his suggestions. Report also to your referral doctor, while someone stays with patient.

If you can NOT reach a doctor, follow this plan until you can.

7.2 If patient wants a legal exam, do the following:

- Arrange for transport to hospital.
- If you can NOT transport for some reason, you may decide to follow the police officer's instructions and "rape kit" exactly as you do a complete exam:
 - ☐ you must do this correctly for it to be OK legally.
 - ☐ you will gather evidence that will be used in reporting the crime. Example: fingernail and hair clippings.

7.3 If patient does NOT want a legal exam, do the following:

- Examine the sexual organs for injury.
- Test for gonorrhea (p.141).
- If patient had close sexual contact, give antibiotics for treating gonorrhea (p.137).
- Draw one red top tube of blood.
 - ☐ send it to your referral hospital for a syphilis test (RPR).
 - ☐ plan to repeat the blood test in 6 weeks.
- If a woman is not on some kind of birth control, ask your referral doctor for advice when you are able to reach him.
- Write a **complete** SOAP note.

7.4 Other plan should include the following:

- Treat injuries and other problems as in this manual.

- If you think patient is still in danger of assault, ask your local police officer for help.
 - If patient is a child, now go to p.196, "Child Abuse and Neglect."
 - Patient education: More information should be available through your referral hospital or other sources.
 - Encourage patient to have counseling.
 - ☐ counseling will help the patient to handle the stress and worries involved.
 - ☐ many programs have:
 - 24 hour crisis counseling information available.
 - money to bring patients in to town for counseling.
 - Contact other programs available in your region.
 - ☐ if you are not sure what is available, ask your social worker, PHN, or referral doctor.
 - ☐ on this page, write down the name and phone number of the program that serves your village.
-

CIRCULATORY AND BLOOD PROBLEMS

CHEST PAIN

Begin here if patient has chest pain from:

- Unknown cause.
- Possible heart attack.

Do NOT begin here for

- Chest injury: Go to p.291.
- Angina (heart pain) in patient with history of angina: Go to p.46: "What to do when chest pain comes on."

1. Begin Emergency Care

1.1 First check ABC's: Airway, Breathing, Circulation.

1.2 Send for help (EMT, CHA/P, other).

1.3 Reassure and calm the patient.

1.4 Have patient rest, in position that feels best:

- Lying down, or
- Sitting, if short of breath.
- Do NOT let patient walk around.
 - ☐ expect patient to deny that his problem may be serious.

1.5 Give OXYGEN if needed:

- Give OXYGEN if patient has:
 - ☐ possible heart attack.
 - ☐ shortness of breath.
 - ☐ severe pain.

• Follow guidelines on p.435.

1.6 Check vital signs: P, R, BP.

1.7 If patient is adult and has chest pain near the breastbone that is NOT made worse by taking a deep breath:

- Now go to "5.2 Plan: Possible Heart Attack."
- Get more history and examine while you follow that plan.

2. Get History Quickly

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] What is the pain like?

- Where exactly is the pain?

- ☐ can patient point with one finger to where it hurts?

- Does it stay in one place or move (into the back, arm, neck, jaw)?

- What does it feel like (heavy pressure, sharp, burning, other)?

- What makes it better or worse?

- ☐ coughing or taking a deep breath?

- ☐ exercising?

- ☐ a position of the body?

[2] Does patient have history of other problems of the circulatory system, now or in past?

- Heart trouble, such as:

- ☐ heart pains (angina), heart attack?

- ☐ heart failure?

- ☐ abnormal heartbeat (palpitations)?

- ☐ rheumatic fever?

- High blood pressure?

- Swelling (ankles, feet)?

- Big leg veins (varicose veins)?

- Blood clot in the leg veins or lungs?

[3] If patient has had pain like this before, also ask:

- Is the pain *now* different in any way? For example:

- ☐ starting after less exercise than usual?

- ☐ lasting longer?

- ☐ not getting better with usual treatment?

[4] Recent history: Chest injury?

[5] If you think this is heart pain:

- Go to "5.2 Plan: Possible Heart Attack."

- Get more history and examine while you follow that plan.

2.2 Past Health History

[1] Illnesses:

- Pneumonia, bronchitis, or lung disease?

[2] Operations:

- Chest surgery?

[3] Medicines:

- What medicines is patient taking now, including DIGOXIN, "heart pills," blood pressure medicine?

2.3 Other History

[1] Does patient have any other complaints, such as:

- Fever or chills?

- Sweating a lot?

- Cough? If so, coughing up anything?

- Shortness of breath? If so, when?

- ☐ when exercising?

- ☐ when lying down?

- Nausea?

- "Heartburn" or indigestion? If so:

- ☐ does it seem related to the chest pain?

- ☐ do certain foods make this happen (fatty or spicy foods)?

- Change in bowel movements?

- Feeling faint, light-headed?

[2] Has any close relative had a heart attack?

[3] Does patient smoke? If so:

- How many packs per day?

- For how many years?

3. Examine Quickly

3.1 General appearance.

3.2 Vital signs:

- Temperature.

- Recheck others: P, R, BP.

3.3 Neck:

- Look at neck veins with patient sitting up straight. Do veins look full (NOT normal)?

3.4 Chest:

- Appearance.

- Feel for tenderness: Press on the place where patient feels pain.

- Breath sounds. Listen, including place where patient feels pain.

- ☐ different on one side?

- ☐ clear, or with:

- rales (crackles), especially in lower lungs?

- rhonchi (snoring sounds)?

- wheezes?

- If abnormal, percuss (p.387). Is sound:

- ☐ different on one side of body?

- ☐ more "hollow" or more dull than normal?

3.5 Heart:

- Have patient lie down, if possible.

- Look and feel carefully for heartbeat, near left nipple.

- Listen with stethoscope:

- ☐ heart rhythm. If NOT regular:

- describe it.

- count heart rate (apical rate).

- ☐ heart sounds: Normal? Murmur?

3.6 Abdomen:

- Feel for:
 - tenderness, lumps.
 - enlarged liver (right side).

3.7 Lower legs:

- Appearance: Swollen?
- Feel lightly, on surface, for temperature, tenderness.
- Check for muscle/vein tenderness:
 - squeeze calf muscles.
 - if calf tenderness, check for deep leg vein problems: With leg straight, quickly push ball of foot (widest part) toward the knee,

bending the ankle (p.397). Does this cause pain in the calf?

- Check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds (p.397).

4. Assessment

4.1 Your assessment should be:
Chest pain.

4.2 Make a more specific assessment. Use chart 4.2.

4.3 Include in your assessment that

the chest pain is caused by one of the following:

- **Angina** (Plan 5.1).
- **Possible heart attack** (Plan 5.2).
- **Collapsed lung** (Plan: p.44).
- **Blood clot in lung** (Plan: p.44).
- **Chest infection** (Assessment: p.300).
- **Heartburn** (Plan: p.80).
- **Ulcer** (Plan: p.67).
- **Muscle or bone pain** (Assessment: p.247).
- **Other or unknown cause of chest pain** (Plan 5.3).

Chart 4.2

Chest Pain: Some Assessments and Typical Findings

Assessment	History	Exam
ANGINA [heart pain; caused by narrowing of heart arteries & not enough blood getting to heart muscle] (Plan 5.1)	Adult; often a smoker, with history of angina. Recurrent chest pain/tightness/pressure/ "squeezing"/discomfort starts when exercising, eating, or going out in cold weather: <ul style="list-style-type: none">• Under breast bone or in front of chest, left side.• Spread over an area, so patient can not point to pain with just one finger.• May go to one or both arms, back, neck, or jaw.• Makes patient stop to rest.• NOT worse with deep breath.• Goes away in 5-15 minutes of rest or in 1-5 min. after NITROGLYCERIN. Other symptoms may include: shortness of breath, feeling faint.	<i>General appearance:</i> Afraid; may be short of breath. Often exam is normal.
HEART ATTACK [myocardial infarction; caused by complete block of an artery that brings blood to heart muscle] (Plan 5.2)	Same history as angina, above except that pain: <ul style="list-style-type: none">• Gets worse with time.• Usually does not go away after NITROGLYCERIN or 15-30 minutes of rest. Other symptoms may include: sweating; abnormal heart beat; nausea, vomiting. May also have symptoms of heart failure: shortness of breath worse with exercise or lying down; coughing up sputum that is clear or with lots of bubbles.	<i>General appearance:</i> Nervous, anxious, afraid, sweaty, pale. <i>Vital signs:</i> <ul style="list-style-type: none">• Pulse may be irregular.• May get shock (weak, fast pulse; low BP). Exam may also show heart failure: <ul style="list-style-type: none">• Wants to sit up to breathe.• Neck: Veins may look full.• Breath sounds: Rales in lower lungs.• Lower legs: Pitting edema. Exam may be normal except that patient may look nervous, anxious, afraid.

Chart 4.2

Chest Pain: Some Assessments and Typical Findings *(continued)*

Assessment	History	Exam
COLLAPSED LUNG [pneumothorax] (Plan: p.44)	Often young active person, or history chronic lung disease. Pain: Started all of a sudden often when exercising; often worse with deep breath and certain body positions. Shortness of breath. Maybe recent chest injury.	<i>Respiratory rate:</i> Increased. <i>Chest:</i> • Breath sounds: Quieter on one side of chest. • Percussion: More hollow than usual on quiet side of chest.
BLOOD CLOT IN LUNG [pulmonary embolus, PE] (Plan: p.44)	Adult. Pain: Often started suddenly; worse with deep breath. Cough; may be coughing blood. Shortness of breath. Often history of inactivity (being in bed a lot), recent female surgery, varicose veins, pregnancy, or taking birth control pills.	<i>Respiratory rate:</i> Increased. If severe: • Blue color of lips, nails. • Shock (weak, fast pulse; low BP). <i>Legs:</i> May have signs of blood clot in leg vein: tender, warm, red, swollen.
CHEST INFECTION [pneumonia, bronchitis, other] (Assessment: p.300)	Pain worse with cough or deep breath. Cough with sputum: cloudy, yellow or rusty color. Shortness of breath.	May look sick. <i>Vital signs:</i> Maybe fever, fast pulse and fast respirations. <i>Chest:</i> If severe: retractions. Breath sounds abnormal: different on one side of body; rales (crackles), rhonchi, or wheezes.
"HEARTBURN" OR INDIGESTION (Plan: p.80)	<i>Heartburn</i> pain may be recurrent: • Starts 30-60 minutes after eating; often when lying down or bending over; NOT brought on by exercising. • Burning, constant pain. • In epigastric area (upper abdomen, where ribs meet); may be under breast bone and up into throat. • Gets better after antacids. • May burp sour, hot liquid. <i>Indigestion.</i> Patient may have any of the following: discomfort after eating, nausea, heartburn, abdominal swelling in epigastric area, extra gas (burps or farts).	<i>Abdomen:</i> May be tender in epigastric area. Rest of exam is normal.
ULCER (Plan: p.67)	Usually has recurrent pain: • Starts 1-4 hrs. after eating; NOT brought on by exercising. • Burning pain, may be sharp. • In epigastric area (upper abdomen, where ribs meet). • Gets better after antacids. May have nausea and vomiting.	<i>Abdomen:</i> May be tender in epigastric area. Rest of exam may be normal.
MUSCLE OR BONE PAIN (Assessment: p.247)	Pain may be worse with deep breath, movement. May have history of chest injury or doing lots of muscle work.	<i>Chest:</i> Tender to touch, often in front of chest, where ribs meet breastbone (costochondritis). Rest of exam is normal.

5. Plan

5.1 Plan: Angina

[1] If patient has chest pain NOW:

- If history of angina (heart pain), first go to p.46, "What to do when chest pain comes on."
- If NO history of angina, go to "5.2 Plan: Possible Heart Attack."

[2] Special care should include the following:

- Reassure and calm the patient.
- Have patient rest, in position that feels best.

[3] Report to your referral doctor. This may be a heart attack!

If you can NOT reach a doctor,

- Have patient rest until you can.
- Have someone stay nearby patient.

[4] Recheck in 1 day, sooner if:

- ☐ pain returns.
- ☐ patient with history of angina has pain that is changing, different from his usual angina.
- ☐ patient has other problems.

5.2 Plan: Possible Heart Attack

[1] First, follow "1. Begin Emergency Care," including give OXYGEN.

[2] Consider other assessments as follows:

- If chest pain is worse with deep breath:
 - ☐ it is probably NOT heart pain.
 - ☐ first go to "4. Make an Assessment."
- If chest pain stops in 15-30 minutes, treat patient as in "5.1 Plan: Angina."
- If your assessment is still "possible heart attack," continue to follow this plan.

[3] Report NOW to your referral doctor. Begin the following treatment while someone else contacts the doctor.

If you can NOT reach a doctor:

- Have someone arrange for transport to hospital as soon as possible. Heart attack patient has the

greatest chance of dying within the first few minutes or hours.

- Recheck vital signs every 5-10 minutes: P, BP.

[4] If an adult, medicine for chest pain from possible heart attack should include:

Give **NITROGLYCERIN** 0.4 mg. tablets:

- Only give if systolic BP (top number) is more than 105.
- **Give an adult one tablet under patient's tongue.** Tell patient: "Let it dissolve. Do NOT swallow tablet."
- Give even if patient has already tried his own NITROGLYCERIN. His medicine may not be fresh enough.
- Warn patient that he should get a sudden, throbbing headache.
- Recheck BP. If less than 100:
 - ☐ raise patient's legs.
 - ☐ do NOT repeat NITROGLYCERIN.
- If moderate or severe chest pain continues, and if systolic BP is more than 105, repeat 0.4 mg. NITROGLYCERIN every 5 minutes, up to a total of 3 doses (1.2 mg.).
- If pain stops, may repeat every 30-60 minutes, if needed.

- If moderate or severe chest pain continues, do the following:
 - ☐ start an I.V. (p.427), if possible. Run I.V. at a very slow rate (6-10 drops/minute), just to "keep the vein open."
 - ☐ if you can NOT reach a doctor, give adult a shot of pain medicine:

Give I.M. shot of pain medicine.

- Do NOT give if patient has shock (weak, fast pulse; low BP) or shortness of breath.

Pain medicines are listed in order of recommended emergency treatment. If needed, give one of the following every four hours:

1. MORPHINE.

- **Dose: 10 mg. by I.M. injection.**
- 2. **MEPERIDINE** (Demerol®).
- **Dose: 50 mg. by I.M. injection.**
- If moderate or severe chest pain continues after 15-20 minutes, repeat 50 mg. I.M. MEPERIDINE one time.

- If chest pain continues, in order to prevent heart rhythm problems, your referral doctor may suggest giving patient 100 mg. of LIDOCAINE (Xylocaine®) by I.V. and/or I.M. injection (10 cc. of 1% solution).

[5] If shock, if systolic BP (top number) is less than 80:

- Try again to contact your referral doctor.
- Referral doctor may suggest giving some I.V. fluid or trying MAST Suit® (pneumatic anti-shock garment) if on exam you find NO signs of heart failure:
 - ☐ neck veins NOT full, with patient sitting up straight.
 - ☐ breath sounds: NO rales.
 - ☐ lower legs: NO pitting edema.

[6] Transport patient to hospital as soon as possible. While you are waiting to transport, your plan should include the following:

- Stay nearby.
- Reassure patient.
- If chest pain returns, give medicine as above.
- If doing OK, recheck vital signs every hour, more often as needed.

5.3 Plan: Other or Unknown Cause of Chest Pain

[1] Report to your referral doctor. If you can NOT reach a doctor:

- Go back to step 4. Try to make a more specific assessment.
- For general patient education, go to p.47: "Heart Problem."

ABNORMAL HEART RATE OR RHYTHM WITHOUT CHEST PAIN

NORMAL HEART RATE (PULSE)

Age	Pulse Range
3-5 yrs.	65-130
5-8 yrs.	70-115
8-12 yrs	60-105
12 yrs. or more	60-100

Abnormal heart rate = If heart rate is slower or faster than normal range.

Begin here if, patient is age 3 or more and:

- You find:
 - ☐ abnormal heart rate (fast or slow), or
 - ☐ abnormal heart rhythm (arrhythmia).
- Patient complains of abnormal heartbeat (palpitations):
 - ☐ this includes feeling the heart thumping, flip-flopping, pounding, skipping beats, beating too fast/too slow.
 - ☐ be sure to **check pulse NOW**. An abnormal heart rate or rhythm may go back to normal quickly.

Do NOT begin here for the following:

- Fast pulse after injury or accident: Go to p.8.
- Chest pain: Go to p.19.
- Poisoning or overdose: Go to p.11.
- Age less than 3 yrs.: Go to p.197, "Approach to the Sick Child."

1. Emergency Care

1.1 Emergency Care for All

[1] First check ABC's: Airway, Breathing, Circulation.

[2] Send for help (EMT, CHA/P, other).

[3] Reassure and calm the patient.

[4] Have patient rest, in position that feels best:

- Lying down, or
- Sitting, if short of breath.

[5] Check vital signs: P, BP.

- Note what position patient is in (sitting, lying down).
- If you can NOT feel pulse well, or if pulse rhythm is NOT regular:
 - ☐ describe pulse.
 - ☐ listen to chest with stethoscope, and count the heart rate (apical rate) for one minute.
- If patient looks sick, plan to recheck P, BP often, at least every 5-10 minutes.

[6] Decide if BP is dangerously low:

- Systolic BP (top number) is less than 80.

—or—

- Systolic BP is 80-100 AND patient has severe shortness of breath or any signs of shock, such as:
 - ☐ feeling faint, light-headed.
 - ☐ acting sleepy, confused.
 - ☐ blue color of lips, nails (cyanosis).
 - ☐ skin: cool, sweaty, pale color.

[7] If BP is NOT dangerously low, now go to "2. History."

1.2 If Dangerously Low BP

[1] Give OXYGEN. Follow guidelines on p.435.

[2] Get history quickly as you treat:

- Has patient had a problem like this before? If so:
 - ☐ when? How often?
 - ☐ how was it treated? What happened?
 - ☐ is the problem now different in any way?
- Does patient have history of other problems of the circulatory system, now or in past?
 - ☐ heart trouble (such as heart pains, heart attack, heart failure)?
 - ☐ high blood pressure?
 - ☐ swelling (ankles, feet)?
- Medicines: What medicines is patient taking now, including DIGOXIN, "heart pills," blood pressure medicine?

[3] Report NOW to your referral

doctor. Begin the following treatment while someone else contacts the doctor.

If you can NOT reach a doctor:

- Have someone arrange for transport to hospital as soon as possible.

[4] If heart rate is less than 60, do the following:

- If patient takes heart medicines regularly, STOP the medicines until you can talk to the doctor. Some common medicines that can cause slow heart rates are:
 - ☐ DIGOXIN.
 - ☐ PROPRANOLOL (Inderal®).
 - ☐ ATENOLOL (Tenormin®).
 - ☐ METOPROLOL (Lopressor®).
 - ☐ NADOLOL (Corgard®).
- Transport patient to hospital.

[5] If heart rate is 60-150, treat for shock. Now go to p.7.

[6] If heart rate is more than 150, try to make it slower:

- Have patient take a deep breath, hold it, and strain/push down, as if he were having a hard bowel movement!
- If heart rate is still more than 150, your doctor may suggest that you put gentle pressure over one carotid pulse and massage for 10-20 seconds.
 - ☐ in older patient, this can cause a stroke. Do this ONLY if ordered by a doctor.
- If heart rate is still more than 150, treat for shock: Now go to p.7.

[7] If heart rate changes to 60-150, do the following:

- Recheck BP.
- Treat for shock (p.7) if:
 - ☐ systolic BP (top number) is less than 80.
- or—
- ☐ systolic BP is 80-100 AND patient has severe shortness of breath or any signs of shock, such as:
 - feeling faint, light-headed.
 - acting sleepy, confused.
 - blue color of lips, nails (cyanosis).
 - skin: cool, sweaty, pale color.

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] What makes this problem better or worse?

- Resting?
- Exercising?
- Worrying?

[2] Does patient have history of other problems of the circulatory system, now or in past?

- Heart trouble, such as:
 - ☐ heart pains (angina), heart attack?
 - ☐ heart failure?
 - ☐ rheumatic fever?
 - Chest problem: pain, tightness, or discomfort? If so:
 - ☐ where?
 - ☐ when?
 - when exercising?
 - when taking a deep breath?
 - High blood pressure?
 - Swelling (ankles, feet)?
 - Big leg veins (varicose veins)?
 - Blood clot in the leg veins or lungs?
- [3]** Recent history:
- Drinking alcohol or taking illegal ("street") drugs? If so:
 - ☐ what?
 - ☐ when?
 - ☐ what amount (how much)?

2.2 Past Health History

[1] Illnesses:

- Lung disease?
- Diabetes?
- Thyroid trouble?

[2] Operations:

- Pacemaker for heart?

[3] Medicines:

- What medicines is patient taking now, including DIGOXIN, "heart pills," blood pressure medicine?

2.3 Other History

[1] Does patient have any other complaints, such as:

- Fever or chills?
- Sweating a lot?

- Cough? If so, coughing up anything?
- Shortness of breath? If so, when?
 - ☐ when exercising?
 - ☐ when lying down?
- Feeling faint (light-headed) or fainting (passing out)? If NOT, ask about vision changes, such as "grey vision" some patients get when they almost faint.

[2] Does patient smoke? If so:

- How many packs per day?
- For how many years?

[3] If pulse is fast (more than 100), ask about the following:

- Recent history of working hard or running just before coming to clinic?
- History of anemia (low hemoglobin)?
- Is patient nervous, worried, angry?
- Does diet include caffeine (in coffee, regular tea, cola drinks)? If so:
 - ☐ when?
 - ☐ how much?

[4] If pulse is slow (less than 60), ask about the following:

- Recent history of head injury?
- If taking DIGOXIN medicine, ask about symptoms of too much DIGOXIN:
 - ☐ do colors look strange?
 - ☐ does patient see light rings around objects?
 - ☐ has he been nauseated or lost appetite?
- Does patient get a lot of physical exercise?

3. Exam

3.1 General appearance.

3.2 Vital signs: T, P, R, BP.

- Check P & BP with patient lying down, then sitting up.

3.3 Weight: Any change?

3.4 Neck:

- Look at neck veins with patient sitting up straight. Do veins look full (NOT normal)?
- Look and feel for thyroid (swelling or lumps).

3.5 Chest:

- Breath sounds.
 - ☐ listen for rales (crackles).

3.6 Heart:

- Have patient lie down, if possible.
- Look and feel carefully for heartbeat, near left nipple.
- Listen with stethoscope:
 - ☐ heart rhythm. Listen for at least one minute. If NOT regular:
 - describe it.
 - count heart rate (apical rate; should be same as pulse).
 - ☐ heart sounds: Normal? Murmur?

3.7 Abdomen:

- Feel for enlarged liver (right side).

3.8 Lower legs:

- Appearance: Swollen?
 - Feel lightly, on surface, for temperature, tenderness.
 - Check for muscle/vein tenderness:
 - ☐ squeeze calf muscles.
 - ☐ if calf tenderness, check for deep leg vein problems: With leg straight, quickly push ball of foot (widest part) toward the knee, bending the ankle (p.397). Does this cause pain in the calf?
 - Check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds (p.397).
- 3.9** Arms:
- Have patient hold out arms and hands in front of him. Look carefully. Are fingers OK, or shaky?
- 3.10** Lab test:
- Hemoglobin.

4. Assessment

4.1 Your assessment should be one of the following:

- **Abnormal heart rate:**
 - ☐ **fast rate** (tachycardia), or
 - ☐ **slow rate** (bradycardia).
- **Abnormal heart rhythm** (arrhythmia).

4.2 Try to decide a cause for this problem. Use chart 4.2.

5. Make a Plan

5.1 First give emergency care, if needed, as above.

Chart 4.2

Some Causes of ABNORMAL HEART RATE OR RHYTHM WITHOUT CHEST PAIN

Fast Heart Rate:

- Alcohol withdrawal (p.261).
- Recent hard exercise.
- Fever, from any cause.
- Heart disease.
- Hemoglobin, low (p.25).
- Medicines or other drugs, including caffeine or smoking (p.414: "If the Medicine Causes a Problem").
- Nervousness, anxiety (p.207).
- Problem that also causes shortness of breath (p.39).
- Thyroid, overactive.

Slow Heart Rate:

- Severe head injury (p.259).
- Heart disease.
- Medicines (p.414: "If the Medicine Causes a Problem").
- May be normal in young, physically active person.

Abnormal Heart Rhythm:

- Heart disease.
- Medicines or drugs (p.414: "If the Medicine Causes a Problem").
- May be normal in young, healthy person, especially if rhythm is normal after exercise.
- Problem that also causes shortness of breath (p.39).

If you can NOT reach a doctor, while you are waiting:

- Have patient rest.
- Have someone stay nearby patient.
- For general patient education, go to p.47: "Heart Problem."

ANEMIA (Low Hemoglobin or Hematocrit)

ANEMIA		
Age	Hemoglobin less than	Hematocrit less than
0-2 wks.	13	40
3 mo.	9.5	29
6 mo. thru 5 yrs.	11	33
6-9 yrs.	11.5	35
10-14 yrs.	12	36
Adult female	12	36
Adult male	13	39

Begin here if you check patient's hemoglobin or hematocrit and it is low, from unknown cause (anemia from unknown cause).

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Has patient had a problem like this before?

- Compare hemoglobin or hematocrit now to ones in the chart. How long has patient had low hemoglobin or hematocrit?

[2] Recent history. Has patient lost blood from:

- Birth of a baby?

- Surgery?
- Injury?
- Nose bleed?
- Digestive system bleeding:
 - ☐ vomit that looks like blood or "coffee grounds"?
 - ☐ bowel movement that has lots of blood in it or looks black, like tar?
 - ☐ if so, now go to p.80, "Severe Digestive System Bleeding."

1.2 Past Health History

[1] Illnesses:

- Is patient sick often?
- Cancer?
- Thyroid disease?
- Other chronic disease?

[2] Medicines:

- What medicines is patient taking now, including ASPIRIN?

[3] If a woman, get female history:

- Periods (menstrual history):
 - ☐ how many days from first day of one period to first day of next period? Do periods come regularly, every 26-30 days?
 - ☐ how long do periods last?
 - ☐ how much bleeding is there: heavy, medium, or light?
 - ☐ any problems, such as abnormal bleeding, spotting blood between periods?
- Birth control:
 - ☐ ask her: "Are you using any birth control now?" If so, what kind (IUD, pills)?
 - ☐ ask her: "Could you be pregnant?"

1.3 Other history

[1] Does patient have other complaints, such as:

- Feeling sick, weak, tired?
- Infection?
- Shortness of breath?
- Abnormal heart beat (palpitations)?
- Feeling faint (light-headed) or fainting (passing out)?

[2] Diet. Find out about patient's normal diet.

- If needed, do a "24 hour food recall" (p.447).
- Does patient eat a well-balanced diet, with foods from the four food groups every day (p.444)?

5.2 Treat the cause for this problem:

- If a page is listed in chart 4.2, go to that page.
- *If you think this may be caused by a heart problem, or if unknown cause, continue to follow this plan.*

5.3 Report to your referral doctor.

- Report NOW unless:
 - ☐ patient is healthy, active, young adult with a slow heart rate between 50-60.
 - ☐ adult has heart rate of 100-150 that you are *sure* is due to nervousness, anxiety, or exercise.

- Does patient get iron each day from any of the following things?
 - ☐ meats?
 - ☐ iron fortified baby formula or cereal?
 - ☐ raw, leafy vegetables?
 - ☐ iron tablets, drops, or vitamins with iron?

[3] Does patient drink alcohol or take illegal ("street") drugs? If so:

- What?
- When?
- What amount (how much)?

2. Exam

Do a screening physical exam (p.368). Also check the following:

2.1 General appearance:

- Pale? Look at:
 - ☐ conjunctiva (inside of lower eyelid).
 - ☐ mucous membranes inside the cheek.
 - ☐ fingernails.

2.2 Vital signs:

- *If patient has lost blood:*
 - ☐ check P & BP with patient lying down, then sitting up.
 - ☐ treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.

2.3 Lab tests:

- *If possible digestive system bleeding, check bowel movement for hidden blood (p.84).*

3. Assessment

3.1 Your assessment should be: **Anemia.**

3.2 Make a more specific assessment.

- Use chart 3.2.

3.3 Include in your assessment that the anemia is one of the following:

- **Anemia from not enough iron in diet** (Plan 4.1).
- **Anemia from other or unknown cause** (Plan 4.2).

Chart 3.2

ANEMIA: ASSESSMENTS & TYPICAL FINDINGS

NOT ENOUGH IRON IN DIET

History:

- Patient is:
 - ☐ child.
 - ☐ woman with normal periods.
 - ☐ pregnant woman.
- Diet: Not enough iron.
- No other problems.

Exam:

- General appearance: May look tired, pale.
- Rest of exam is normal.

OTHER OR UNKNOWN CAUSE

History or exam is different from above.

- Blood loss is a common cause.
- There are many other causes of anemia.

4. Plan

4.1 Plan: Anemia from Not Enough Iron In Diet

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- *Always report if:*
 - ☐ hemoglobin is less than 10.
 - ☐ hematocrit is less than 30.
 - ☐ infant less than age 6 months.
- While you are waiting to report, follow this plan.

[2] Patient Education should include information about diet:

- For an infant:
 - ☐ if not breast feeding:
 - use iron fortified formula.
 - limit infant's intake of milk to 32 ounces per day.
 - ☐ add iron fortified cereals if age 4 mo. or more.
- For a child or adult:
 - ☐ eat a well-balanced diet, with foods from the four food groups every day (p.444).

- ☐ eat more foods that are rich in iron, such as red meats and liver (p.448).
- ☐ it will help the body to take up more iron if, along with meals, patient eats one or more of the following:
 - a food high in vitamin C (p.448).
 - meat, fish, or poultry.
- Refer child less than age 5 OR nursing mother to WIC Nutrition program.
 - ☐ if you are not sure who to contact, ask your PHN.

[3] Medicine. Start patient on iron:

Give **FERROUS SULFATE**

(Fer-In-Sol®; 15 mg./0.6 ml. drops or 324 mg. tablets).

- Remind parents to keep out of reach of children. This medicine is dangerous if taken as overdose.
- Patient should take iron **for four months:**

Approximate		
Weight	Age	Dose
Less than 17 lbs.	Less than 6 mo.	Consult doctor.
17-21 lbs.	6-11 mo.	15 mg. (0.6 ml.) 3 times a day
22-31 lbs.	1-2 yrs.	30 mg. (1.2 ml.) 2 times a day
32-39 lbs.	3-4 yrs.	30 mg. (1.2 ml.) 3 times a day
40-89 lbs.	5-11 yrs.	324 mg. (1 tablet) 2 times a day
90 lbs. or more	12 yrs. or more	324 mg. (1 tablet) 3 times a day

[4] Recheck as follows:

- Recheck at these times:
 - ☐ *if hemoglobin is less than 10 or if hematocrit is less than 30, recheck in 2 weeks.*

- ☐ if hemoglobin is 10 or more or if hematocrit is 30 or more, recheck in 4 weeks.
- ☐ again after 4 months of iron treatment.
- Recheck hemoglobin or hematocrit.
- Medicine plan:
 - ☐ give patient a refill, if needed.
 - ☐ remind patient that iron must be taken for 4 months to build up the body's iron supply.
- Report to your referral doctor if:
 - ☐ in 2 weeks hemoglobin or hematocrit is lower.
 - ☐ in 4 weeks hemoglobin or hematocrit is NOT higher.
 - ☐ after 4 months of iron treatment hemoglobin or hematocrit is NOT normal.

4.2 Plan: Anemia from Other or Unknown Cause

[1] Report to your referral doctor.

- Report NOW if:
 - ☐ patient is very weak, faint, dizzy, or short of breath.
 - ☐ you think blood loss is the cause.
 - ☐ hemoglobin or hematocrit has dropped quickly.
 - ☐ hemoglobin is less than 10.
 - ☐ hematocrit is less than 30.

[2] Other plan depends on your doctor's assessment and may include:

- If patient is very sick, transport to hospital.
- If patient may be bleeding now, recheck vital signs often:
 - ☐ check P & BP with patient lying down, then sitting up.
 - ☐ treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.
- If patient is NOT very sick, he may still need exam and lab tests at hospital.
- Plan similar to "4.1 Anemia from Not Enough Iron In Diet."

EDEMA (Swelling of Skin)

edema = puffiness, swelling of body tissues with extra fluid.

Begin here if patient has edema of skin from unknown cause. The edema may be in one area of body (such as an arm or leg) or may be all over.

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] What is the swelling like?

- Where exactly is the swelling?
 - ☐ all over?
 - ☐ part of the body (face, hands, legs)?
- Is it the same on both sides of the body?
- If it comes and goes, does it happen at certain times of the
 - ☐ day?
 - ☐ month (related to menstrual period)?
- What makes it better or worse?
 - ☐ standing?
 - ☐ other position of the body?

[2] Does patient have other complaints that seem related to the swelling, such as nearby:

- Pain?
- Skin problems (itching, sores, rash)?

[3] Does patient have history of problems of the circulatory system, now or in past?

- Heart trouble, such as:
 - ☐ heart failure?
 - ☐ abnormal heartbeat (palpitations)?
- High blood pressure?
- Big leg veins (varicose veins)?
- Blood clot in the leg veins or lungs?

[4] Recent history:

- Injury to the swollen area?

- Allergic reaction to food, medicine, or something else? If so, what happened?
- Strep throat, or impetigo?
- Eating bear, pork, seal, or walrus that was not completely cooked? (Can cause trichinosis, causing edema.)

1.2 Past Health History

[1] Illnesses:

- Liver disease, including yellow skin color (jaundice)?
- Kidney disease?

[2] Allergies?

[3] Medicines:

- What medicines is patient taking now, including birth control pills?

[4] If a woman, is she pregnant? If so, now go to p.161. Consider that the assessment may be preeclampsia.

1.3 Other History

[1] Does patient have any other complaints, such as:

- Weight change?
- Cough? If so, coughing up anything?
- Shortness of breath? If so, when?
 - ☐ when exercising?
 - ☐ when lying down?
- Urinary problems, such as:
 - ☐ dark or bloody urine?
 - ☐ urinating less than normal?

[2] Does any close relative have allergies?

[3] Diet. Find out about patient's normal diet:

- Does patient eat a well-balanced diet every day, with foods from the four food groups (p.444)?
- Does patient eat a lot of salty foods (p.445)?
- How much salt does patient add to food?

[4] Does patient smoke? If so:

- How many packs per day?
- For how many years?

[5] Does patient drink alcohol or take illegal ("street") drugs? If so:

- What?
- When?
- What amount (how much)?
- Maybe patient forgot an injury.

2. Exam

2.1 General appearance:

- If yellow color of skin and white part of eyes (jaundice), now go to p.75.

2.2 Vital signs: T, P, R, BP.

2.3 Weight: Any change?

2.4 Areas of swelling (edema). As you examine, compare one side of body to the other:

- Appearance: Look closely.
- Check for inflammation. Is it tender, warm, red?
- Check for pitting edema: Press thumb firmly into skin for 1-2 seconds.
- Feel for enlarged lymph nodes (p.385). If felt, note location, size, tenderness, and if movable.
- If swollen lower legs, check for muscle/vein tenderness:
 - ☐ squeeze calf muscles.
 - ☐ if calf tenderness, check for deep leg vein problems: With leg straight, quickly push ball of foot (widest part) toward the knee,

bending the ankle (p.397). Does this cause pain in the calf?

2.5 Neck:

- Look at neck veins with patient sitting up straight. Do veins look full (a sign of heart failure)?

2.6 Chest:

- Breath sounds.

2.7 Heart:

- Listen with stethoscope:
 - ☐ heart rhythm. *If NOT regular:*
 - describe it.
 - count heart rate (apical rate).
 - ☐ heart sounds: Normal? Murmur?

2.8 Abdomen:

- Feel for:
 - ☐ tenderness, lumps.
 - ☐ enlarged liver (right side).

2.9 Skin.

2.10 Lab tests:

- Urine dipstick for:
 - ☐ protein (albumin).
 - ☐ blood.
- Hemoglobin.

3. Assessment

3.1 Your assessment should be: **Edema** (swelling of skin).

3.2 Include in your assessment where the edema is, such as "ankles" or "face and hands."

3.3 Make a more specific assessment. Use chart 3.3.

3.4 Include in your assessment that the edema is caused by one of the following:

- **Allergic reaction** (Plan: p.325).
- **Blood clot in leg vein** (Plan: p.38).
- **Poor circulation from vein disease** (Plan: p.38).
- **Heart failure** (Plan: p.44).
- **Kidney or liver disease** (Plan: 4.1).
- **Menstrual cycle related swelling** (Plan: p.122).
- **Musculoskeletal problem** (Assessment: p.247).
- **Soft tissue infection** (Assessment: p.318).
- **Other or unknown cause of edema** (Plan 4.2).

Chart 3.3

EDEMA (Swelling of Skin): Some Assessments and Typical Findings

Assessment	History	Exam
ALLERGIC REACTION (Plan: p.325)	Swelling of one area: maybe face, around eyes. May have started quickly, in reaction to something such as food, medicine, something breathed in, insect bites, heat or cold. Itches a lot. Past history or family history of allergies.	Swelling: Edema is NOT pitting. Exam may also show: <ul style="list-style-type: none"> • Shock (weak, fast pulse; low BP), severe swelling, wheezing, or shortness of breath. If so, go to p.7. • Watery eyes. • Rash; hives.
BLOOD CLOT IN LEG VEIN [thrombophlebitis] (Plan: p.38)	Adult. Usually swelling <i>and pain</i> one leg, made worse by in sitting with leg down. Often history of inactivity (being in bed a lot), recent female surgery, varicose veins, pregnancy, or taking birth control pills.	<i>Vital signs:</i> May have fever, fast pulse. Swelling: One leg is more swollen and warmer than other. <ul style="list-style-type: none"> • <i>If vein is just under skin:</i> Tender, warm, red, swollen area along path of vein, with firm "cord" felt. • <i>If vein is deeper:</i> Pitting edema; calf tenderness when squeezing muscle AND when pushing foot toward knee.

Chart 3.3

EDEMA (Swelling of Skin): Some Assessments and Typical Findings (continued)

Assessment	History	Exam
POOR CIRCULATION FROM VEIN DISEASE [Blood does not return well from leg veins] (Plan: p.38)	Adult; symptoms may be worse in one leg. Swelling of both ankles. May have history of: <ul style="list-style-type: none"> • Leg pain: Mild & recurrent; made better by elevating legs. • Skin: Recurrent itching and sore (ulcer), often just above ankle. • Big vein (varicose vein). • Blood clot in leg vein. 	<i>Vital signs:</i> Normal. Often patient is overweight. Swelling: Pitting edema of ankles. <i>Legs:</i> <ul style="list-style-type: none"> • Skin color: May be blue (cyanotic); brown color if long-term problem. • May have big vein (varicose vein) touch, that is a little bit tender to but is NOT warm, red, swollen. Rest of exam is normal, with no signs of heart failure.
HEART FAILURE [Heart can not pump blood well enough] (Plan: p.44)	Swelling of <i>both</i> ankles. May cough up sputum: clear or with lots of bubbles. May have shortness of breath, worse when exercising or lying down.	May be short of breath. Swelling: Pitting edema of ankles. <i>Neck:</i> Veins may look full. <i>Breath sounds:</i> May have rales in lower lungs, wheezes. <i>Abdomen:</i> May have enlarged liver.
KIDNEY OR LIVER DISEASE (Plan 4.1)	Swelling may be of face, worse in morning; ankles. History of one of following: <ul style="list-style-type: none"> • Kidney or liver disease (including hepatitis). • Recent strep infection, (strep throat or impetigo) within past few weeks. • Heavy drinking, for years. May also have shortness of breath.	Blood pressure may be high. Weight gain. Swelling: May be of face; may have pitting edema of ankles. <i>Abdomen:</i> May be swollen; may have enlarged liver. <i>Urine:</i> May look dark; dipstick may show bilirubin, blood, or protein.
MENSTRUAL CYCLE RELATED SWELLING (Plan: p.122)	Swelling, weight gain related to when period is due or to taking birth control pills.	Swelling: Mild pitting edema of ankles. Rest of exam is normal.
MUSCULOSKELETAL PROBLEM [injury, tendonitis, others] (Assessment: p.247)	Swelling <i>and pain</i> in one area History of injury, hard exercise, or recurrent problem.	May have other signs of injury: Bruised; injured part tender to touch. Tendon or bone may be mildly inflamed (tender, warm, red, swollen). Nearby joint movement may be <i>abnormal</i> .
SOFT TISSUE INFECTION (Assessment: p.318)	Swelling <i>and pain</i> in infected area; started slowly, often after injury.	May have fever. Usually there is a wound/sore. <i>Skin:</i> Inflamed, usually more than with clotted vein: <ul style="list-style-type: none"> • Tender, warm, red, swollen. • Pus may be seen. May have enlarged, tender lymph nodes.

4. Plan

4.1 Plan: Kidney or Liver Disease

[1] Report to your referral doctor.

- While you are waiting to report, go to plan 4.2.

4.2 Plan: Other or Unknown Cause of Edema

[1] Report to your referral doctor.

- Report NOW if patient is seriously ill, including:
 - ☐ patient looks very sick or short of breath.
 - ☐ urine looks dark; dipstick shows bilirubin, blood, or protein.
- While you are waiting to report, follow this plan.

[2] If patient is seriously ill and you can NOT reach a doctor, treat for possible liver or kidney disease. Your plan should include the following:

- If you think patient needs emergency care at the hospital, arrange for transport.
- Have someone stay with patient.
- Activity: Little or none. Patient should rest in bed.
- Diet, until the doctor recommends something else:
 - ☐ restrict fluids. Just give small amounts.
 - ☐ foods given should be:
 - high in carbohydrates (p.448).
 - low in protein (p.448).
- Give the same patient education as for patient who is NOT seriously ill, which follows.
- If you do NOT transport, recheck vital signs every 6 hours, more often as needed.

[3] If patient is NOT seriously ill, your plan should include the following:

- Patient education:
 - ☐ position: Elevate the swollen area, if possible. For example, if swollen leg, patient should lie down and elevate the leg about 4-8 inches above level of the heart.

- ☐ diet. Avoid salt:

— avoid eating salty foods (p.445)

— do NOT add salt to foods.

- Recheck in 1 day, sooner if getting worse.

HIGH BLOOD PRESSURE

HIGH BLOOD PRESSURE

Age	BP
Less than 6 yrs.	110/75
6-9 yrs.	120/80
10-13 yrs.	125/85
14-17 yrs.	135/90
18 yrs. or more	140/90

High BP (hypertension) = If *either* number is this high or higher.

Begin here if you check patient's BP and it is high.

- Be sure to use the correct size BP cuff for the patient.
 - ☐ if cuff is too narrow, it gives a higher BP.

1. Give Emergency Care, If Needed

1.1 Decide if an Emergency

[1] It is an emergency (patient has dangerously high BP) if:

- Diastolic BP (bottom number) is more than 115 and patient has one of the following:
 - ☐ blurry vision.
 - ☐ severe headache that is getting worse.
 - ☐ change in mental status (mind), such as if patient is sleepy, confused, or unconscious.
 - ☐ seizure.
- or—
- Diastolic BP is more than 90 AND

patient seems very sick with one of the following:

- ☐ chest pain.
- ☐ shortness of breath.

[2] If NOT an emergency, do the following:

- If patient stopped drinking alcohol and has "shakes," or DT's, now go to p.261.
- If pregnant patient, now go to p.161, "Preeclampsia."
- For long-term care of patient with high BP, go to p. 33.
- For other patients, now go to "2. History."

1.2 Begin Emergency Care

[1] Position:

- If *sleepy, confused, or unconscious*:
 - ☐ check ABC's: Airway, Breathing, Circulation.
 - ☐ lay patient on his side, to help prevent choking on vomit.
- If awake, patient should sit up or lie with head and shoulders elevated.

[2] Check vital signs: P, R, BP

- **Check BP in both arms.**
- Recheck P, BP often, at least every 5-10 minutes.

[3] Give OXYGEN, if needed: very short of breath; blue color of lips, nails.

- Follow guidelines on p.435.

[4] Get history quickly:

- History of present illness.
 - ☐ find out about the problem.
 - ☐ how did it start? Did it start quickly or slowly?
- Does patient have history of problems of the circulatory system, now or in past?
 - ☐ heart trouble (such as heart pains, heart attack, heart failure, abnormal heartbeat)?
 - ☐ chest problem: pain, tightness, or discomfort? If so:
 - where?
 - when? (when exercising? when taking a deep breath?)
 - ☐ high blood pressure?
 - ☐ swelling (ankles, feet)?
 - ☐ blood clot in the leg veins or lungs?
- Illnesses:
 - ☐ kidney disease?
 - ☐ stroke?

- Medicines:
 - ☐ what medicines is patient taking now, including DIGOXIN, "heart pills," blood pressure medicine?
 - ☐ did patient ever take medicine for high blood pressure?
- If a woman, is she pregnant?
- [5] Examine quickly:**
 - Vital signs: Recheck.
 - Neck: Look at neck veins with patient sitting up straight. Do veins look full (NOT normal)?
 - Chest:
 - ☐ breath sounds. Listen for rales (crackles), wheezes.
 - Heart. Listen with stethoscope:
 - ☐ heart rhythm.
 - ☐ heart sounds.
 - Lower legs:
 - ☐ appearance: Swollen?
 - ☐ check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds.
 - Nervous system:
 - ☐ mental status (mind). How is patient acting?
 - ☐ movement & strength:
 - grasp.
 - bending/straightening elbows, knees.
 - ☐ tendon reflexes at knee.

1.3 Make an Emergency Plan

Make a plan for dangerously high BP:

[1] Report NOW to your referral doctor. Begin the following treatment while someone else contacts the doctor.
If you can NOT reach a doctor, have someone arrange for transport to hospital as soon as possible.

[2] Treat other severe problems as follows:

- Severe chest pain: Now go to p.19.
- Seizure: Now go to p.270.
- Severe shortness of breath: Now go to p.39.

[3] If an adult, give medicine to lower the BP:

- Give medicine to dilate the blood vessels:

Give **NITROGLYCERIN** 0.4 mg. tablets:

- **Give an adult one tablet under patient's tongue.** Tell patient: "Let it dissolve. Do NOT swallow tablet."
- Warn patient that he should get a sudden, throbbing headache.
- Recheck BP.
- *If BP is not lower,* repeat every 3-5 minutes, up to a total of 6 doses (2.4 mg.).
- *If BP gets lower,* may repeat every 15-30 minutes, if needed.

- Also give a diuretic to help get rid of extra fluid:

Diuretic medicines are listed in order of recommended emergency treatment. Give an adult one of the following:

1. **FUROSEMIDE** (Lasix®; 10 mg./ml. for injection or 40 mg. tablets). If needed, plan to give every 8 hours. **Give one of the following:**
 - **20 mg. by I.V. injection.**
 - ☐ give only if doctor orders it.
 - ☐ in this case, first start I.V., and run at very slow rate (6-10 drops/minute), just to "keep the vein open." Next, inject the medicine fairly quickly.
 - **40 mg. by I.M. injection.**
 - **80 mg. by mouth** (two 40 mg. tablets).
2. **HYDROCHLOROTHIAZIDE** (HCTZ; 50 mg. tablets).
 - **Give 100 mg. by mouth** (two 50 mg. tablets).
 - ☐ if needed, plan to give 100 mg. two times a day.

- Give a sedative, if needed, to make patient sleepy:

Give enough medicine so patient is sleepy but can still wake up easily. Plan to repeat, if needed, four times

a day. Give an adult ONE of the following:

1. **DIAZEPAM** (Valium®).
 - **Dose: 5-10 mg. by mouth.**
2. **CHLORDIAZEPOXIDE** (Librium®)
 - **Dose: 10-25 mg. by mouth.**

[4] Transport patient to the hospital as soon as possible. While you are waiting, your plan should include the following:

- Stay nearby.
- Reassure the patient.
- Recheck vital signs every hour, more often as needed.
- Activity: Little or none. Patient should rest in bed, but can get up to go to the toilet.
- Diet: Patient should NOT eat or drink anything except a little water:
 - ☐ just enough to keep from being thirsty.
 - ☐ many patients with dangerously high BP have kidney failure.

2. History

2.1 History of Present Illness

[1] Has patient ever had high blood pressure before? If so:

- When?
- How was it treated? What happened?

[2] Does patient have history of other problems of the circulatory system, now or in past?

- Heart trouble such as:
 - ☐ heart pains (angina), heart attack?
 - ☐ heart failure?
 - ☐ abnormal heartbeat (palpitations)?
- Chest problem: pain, tightness, or discomfort? If so:
 - ☐ where?
 - ☐ when?
 - when exercising?
 - when taking a deep breath?
- Swelling (ankles, feet)?
- Big leg veins (varicose veins)?
- Blood clot in the leg veins or lungs?

[3] Recent history:

- Working hard or running just before coming to clinic?
- Strep throat, impetigo?
- Drinking alcohol or taking illegal ("street") drugs? If so:
 - ☐ what?
 - ☐ when?
 - ☐ what amount (how much)?

2.2 Past Health History

[1] Illnesses:

- Kidney disease?
- Stroke?
- Diabetes?

[2] Medicines: What medicines is patient taking now, including DIGOXIN, "heart pills," birth control pills?

2.3 Other History

[1] Does patient have other complaints, such as:

- Shortness of breath? If so, when?
 - ☐ when exercising?
 - ☐ when lying down?
- Feeling nervous (anxious)?

[2] Does any close relative have high blood pressure?

[3] Diet. Find out about patient's normal diet:

- Does patient eat a lot of salty foods (p.445)?
- How much salt does patient add to food?
- How often does patient have caffeine (in coffee, tea, cola drinks)?

[4] Does patient smoke? If so:

- How many packs per day?
- For how many years?

3. Exam

3.1 General appearance.

3.2 Vital signs:

- Check P, R.
- Check and record BP in both arms.
- Compare BP now to ones in the chart.
- Have patient lie down and rest for 10 minutes. Recheck and record BP while patient is still lying down.

3.3 Weight: Any change?

3.4 Neck:

- Look at neck veins with patient sitting up straight. Do veins look full (NOT normal)?
- Feel for thyroid.

3.5 Chest:

- Breath sounds.
 - ☐ listen for rales (crackles), wheezes.

3.6 Heart:

- Have patient lie down.
- Look and feel carefully for heartbeat, near left nipple.
- Listen with stethoscope:
 - ☐ heart rhythm. *If NOT regular:*
 - describe it.
 - count heart rate (apical rate).
 - ☐ heart sounds: Normal? Murmur?

3.7 Lower legs:

- Check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds.
- Pulse at top of foot (DP).
 - ☐ compare one side of body to the other.

3.8 If a child, look for swelling of face or hands.

3.9 Lab test:

- Urine dipstick for:
 - ☐ protein (albumin).
 - ☐ glucose (sugar).
 - ☐ blood.

4. Assessment

4.1 Your assessment should be **High BP reading**, if any BP reading on this visit was high.

5. Plan

5.1 Report to your referral doctor.

- Report NOW if:
 - ☐ diastolic BP (bottom number) is more than 115. This patient will need medicine started now.
 - ☐ patient may have kidney disease:
 - history: May be a child with recent history of strep throat or impetigo.
 - exam: Swelling, often of the face; urine dipstick shows blood or protein.
- While you are waiting to report, follow this plan.

5.2 If adult's diastolic BP is more than 115 and you can NOT reach a doctor, give medicine to lower the BP:

- Give a diuretic to help get rid of extra fluid:

Give an adult one of the following:

1. **FUROSEMIDE** (Lasix®; 40 mg. tablets).
 - **Dose: 80 mg. by mouth (two 40 mg. tablets), every 8 hours.**
2. **HYDROCHLOROTHIAZIDE** (HCTZ; 50 mg. tablets).
 - **Dose: 100 mg. by mouth (two 50 mg. tablets), two times a day.**

- It may also help to give a sedative, to make patient sleepy:

Give enough medicine so patient is sleepy but can still wake up easily. Give an adult one of the following:

1. **DIAZEPAM** (Valium®).
 - **Dose: 5-10 mg. by mouth.**
2. **CHLORDIAZEPOXIDE** (Librium®).
 - **Dose: 10-25 mg. by mouth.**

- Recheck BP in 6 hours.
- Repeat the medicine, if needed, four times a day for 1 day, until you can talk with a doctor.

5.3 Patient education should include the following:

- Tell patient what his BP is.
- Explain that it is important for you to recheck the BP, because patient will NOT know when it is high.
- For general patient education, go to p.34, "High Blood Pressure."

5.4 Recheck: as follows:

- Recheck on your next clinic day, sooner if:
 - ☐ diastolic BP (bottom number) is more than 115.
 - ☐ you think patient is sick or may have kidney disease.
- Recheck BP.

- Report to your referral doctor. The doctor will decide:
 - ☐ if you should start or continue patient on medicine.
 - ☐ how often you should recheck patient (p.33 “High Blood Pressure: Long Term Care”).

HIGH BLOOD PRESSURE: LONG-TERM CARE

Begin here for recheck and long-term care of patient with high BP. Patient may or may not be on medicines.

Do NOT begin here if patient has dangerously high BP (p.30).

1. Get Information from the Doctor

You need to know the doctor's assessment and plan, including:

1.1 Medicine: Is patient supposed to take any medicine? If so, for each medicine, find out the following:

- Name.
- Dose.
- How often patient should take it.
- Warnings and side effects patient should look for.
- Possible problems when taking other medicine at the same time (drug interactions).

1.2 Are there any special problems or symptoms to watch for in this patient?

1.3 Is there other special patient education, such as:

- Things patient should avoid?
- Diet:
 - ☐ should patient lose weight? What should patient weigh?
 - ☐ special instructions?
- Exercise: What sort of regular exercise is good for this patient?

1.4 Does patient need any special appointments or tests, such as blood potassium check? If so, how will these be arranged?

2. Get History From Patient

2.1 If on medicine:

- Does patient take medicine as directed?
- Are there side effects or problems from the medicine, such as:
 - ☐ severe muscle cramps?
 - ☐ feeling faint when standing up quickly?

2.2 Does patient have any problems, such as:

- Headache?
- Change in vision?
- Nosebleeds?
- Shortness of breath? If so, when?
 - ☐ when exercising?
 - ☐ when lying down?
- Chest problem: pain, tightness, or discomfort? If so:
 - ☐ where?
 - ☐ when?
 - when exercising?
 - when taking a deep breath?

3. Exam

Check for changes from patient's usual exam:

3.1 Vital signs:

- Pulse.
- BP: Check with patient lying down, then standing up.

3.2 Weight.

3.3 Chest:

- Breath sounds:
 - ☐ listen for rales (crackles), wheezes.

3.4 Lower legs:

- Check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds.

4. Assessment

4.1 Your assessment should:

High BP: long-term care.

4.2 Decide if BP is under control.

Include in your assessment:

- “BP under control,” if BP is OK, or
- “BP not controlled,” if BP is high.

HIGH BLOOD PRESSURE

Age	B.P.
Less than 6 yrs.	110/75
6-9 yrs.	120/80
10-13 yrs.	125/85
14-17 yrs.	135/90
18 yrs. or more	140/90

High BP = If *either* number is this high or higher.

4.3 Also include in your assessment:

- Problems with medicine:
 - ☐ side effects.
 - ☐ NOT taking as directed.
- Other problems you have found.

5. Plan

5.1 Patient education is important in order to try to control the BP.

- Get patient education handouts from your referral hospital or other sources.
- Tell patient what his BP is today.
- Patient on medicine will probably need to take medicine all his life, in order to prevent damage to heart, brain, and kidneys.
- Give information in chart 5.1.

5.2 If on medicine, your plan should include the following:

- Discuss importance of taking medicine.
 - ☐ patient should let you know when he is running low, in time to get a refill.
- Remind patient about warnings and possible side effects.
- If side effects, treat as recommended by your referral doctor:
 - ☐ severe muscle cramps can be from low potassium. Doctor may suggest: blood test; eating foods high in potassium (p.448); potassium medicine.

Chart 5.1

Patient Education HIGH BLOOD PRESSURE

1. NO SMOKING!

2. Diet:

- Stay at the right weight. *If you are overweight*, you should slowly lose weight (p.446).
- Eat less fat, especially fat that is solid at room temperature.
 - ☐ follow guidelines for a low fat diet (p.445).
- Avoid alcohol.
- Avoid caffeine (coffee, regular tea, cola drinks, chocolate; p.446).
- Avoid salt. Follow guidelines for a low salt diet (p.445), including:
 - ☐ avoid eating salty foods.
 - ☐ do NOT add salt to food at the table.

3. Get enough rest.

4. Exercise regularly:

- Plan to walk or get other exercise for 20 minutes, at least 3 times a week.
 - ☐ do not get short of breath.
- Consult your referral doctor before starting. You may need special instructions.

5. Reduce stress:

- Worry and stress help to cause high blood pressure.
- Follow guidelines on p.221.

- ☐ *feeling faint* when standing up quickly is a common side effect. Doctor may suggest that patient continue the medicines, but get up slowly and carefully.

- Give patient a refill, if needed.

5.3 Recheck. Make appointment for next visit. If doing well, see patient as follows:

- *If on B.P. medicine:* every 3 months.
- *If NOT on B.P. medicine:* every 6 months.

5.4 Report to your referral doctor:

- If possible, send a copy of your SOAP note to the referral doctor.

Contact him sooner if you found any problems.

- ☐ contact him NOW if diastolic BP (bottom number) is more than 105.

- Ask doctor about special immunizations that may be needed for this patient (flu, pneumococcal).

5.5 Other plan should include the following:

- Order more medicines, if needed.
 - ☐ fill out pharmacy refill request, if needed.
- Check to see that:
 - ☐ patient's name is on list of patients to be seen on a field trip by doctor, PHN.
 - ☐ this chronic problem and patient's medicines are written on patient's problem list.

LEG PAIN

Begin here if chief complaint is leg pain or cramps that you think may be from circulation problems (artery or vein problems).

Do NOT begin here if patient has:

- Chest pain or shortness of breath: Go to p.39, "Shortness of Breath."
- Swelling of both legs and NOT much pain: Go to p.27, "Swelling."

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] What is the pain like?

- How severe is it? What does patient do when he gets the pain (stops walking, wakes up, vomits)?
- What makes it better or worse?
 - ☐ massaging (rubbing) the muscles?

- ☐ changing position (standing up, lying down)?
- ☐ walking around?
- ☐ resting? *If resting makes it better*, how long does it take?

[2] Does patient have other problems with legs or feet, such as:

- Weakness?
- Swelling?
- Big veins (varicose veins)?
- Cold feet?
- Skin problems (itching, sores, rash)?

[3] Does patient have history of other problems of the circulatory system, now or in past?

- Heart trouble, such as:
 - ☐ heart pains (angina), heart attack?
 - ☐ heart failure?
 - ☐ abnormal heartbeat (palpitations)?
 - ☐ rheumatic fever?
- Chest problem: pain, tightness, or discomfort? If so:
 - ☐ where?
 - ☐ when?
 - when exercising?
 - when taking a deep breath?
- High blood pressure?
- Swelling (ankles, feet)?
- Big leg veins (varicose veins)?
- Blood clot in the leg veins or lungs?

[4] Recent history:

- Injury?
- Being in bed for several days?
- Standing or sitting still for a long time?

1.2 Past Health History

[1] Illnesses:

- Stroke?
- Diabetes?
- Cancer?

[2] Serious injuries:

- Frostbite of feet or legs?

[3] Medicines: What medicines is patient taking now, including birth control pills?

[4] If a woman, ask: "Are you using any birth control now? Could you be pregnant?"

1.3 Other History

[1] Does patient have any other complaints, such as:

- Change in vision?
- Shortness of breath?

[2] Does patient smoke? If so:

- How many packs per day?
- For how many years?

2. Exam

2.1 General appearance.

2.2 Vital signs: T, P, R, BP.

2.3 Weight: Any change?

2.4 Legs. As you examine, compare one side of body to the other:

[1] Appearance. Look at both legs from the groin to the toes. Look for:

- Size and shape:
 - ☐ swelling of legs or ankles?
 - ☐ different size on one side? *If so, measure both sides at the same spot on each leg.*
- Skin.
- Veins.

[2] Soft tissues. Check skin, muscles, veins, and other soft tissues in areas where there is a problem:

- Feel lightly, on surface, for:
 - ☐ temperature.
 - ☐ tenderness.
 - ☐ clotted vein just under skin: a tender, warm, red, swollen area found along the path of a vein, with a firm clot felt, like a cord under the skin.
- Feel deeper. For example:
 - ☐ squeeze nearby muscles.
 - ☐ feel tendons.
- *If calf pain or tenderness, check for deep leg vein problems:*
 - ☐ with leg straight, quickly push ball of foot (widest part) toward the knee, bending the ankle (p.397).

Does this cause pain in the calf?

- Check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds.

[3] Bones: Feel for bone tenderness.

[4] Joints: Check movement of nearby joints.

[5] Pulses: Check strength of each pulse, and compare one side of body to the other:

- Top of foot (DP).
- Behind medial ankle bone (PT).
- Groin (femoral).
 - ☐ also feel here for enlarged lymph nodes. If felt, note size, tenderness, and if movable.

[6] *If any pulse in foot is weak, check blood supply (arteries) as follows:*

- Squeeze big toe. Does color return normally, within two seconds (good capillary refill)?
- Check legs in different positions:
 - ☐ have patient sit, with legs hanging down, for 2-3 minutes.
 - look at skin color and feel skin temperature.
 - ☐ next, have patient lie down.
 - elevate leg to about 12 inches above level of heart.
 - look at skin color and feel skin temperature.

[7] Muscle movement and strength:

- Legs (knee movement).
- Feet (ankle movement).

[8] Feeling (sensation) with light touch.

2.5 Lab tests:

- Blood sugar (glucose) to check for diabetes.

3. Assessment

3.1 Your assessment should be:

Leg pain.

3.2 Make a more specific assessment. Use chart 3.2.

3.3 Include in your assessment that the leg pain is caused by one of the following:

- **Poor circulation from artery disease** (Plan 4.1).
- **Completely blocked artery** (Plan 4.2).
- **Poor circulation from vein disease** (Plan 4.3).
- **Blood clot in leg vein** (Plan 4.4).
- **Soft tissue infection** (Assessment: p.318).
- **Bone infection** (Plan: p.246).
- **Joint infection** (Plan: p.246).
- **Other musculoskeletal problem** (Assessment: p.247).
- **Nighttime leg cramps** (Plan 4.5).
- **Other or unknown cause of leg pain** (Plan 4.6).

4. Plan

4.1 Plan: Poor Circulation From Artery Disease

[1] Report to your referral doctor.

- Patient may need special tests, possible surgery to improve blood flow.
- While you are waiting to report, follow this plan.

[2] Patient education should include the following:

- *If on medicine for high blood pressure, it is important for patient to continue to take the medicine.*
 - ☐ high blood pressure will damage arteries, and the problem will get worse.
- Medicine to widen (dilate) the blood vessels does NOT seem to help.
- Give information in chart 4.1.

[3] Other plan depends on the doctor's assessment and may include giving patient one or two 325 mg. ASPIRIN tablets (*NOT* ACETAMINOPHEN) once a day, to help prevent blood clots in arteries.

Chart 3.2

Leg Pain: Some Assessments and Typical Findings

Assessment	History	Exam of Vital Signs and Leg
POOR CIRCULATION FROM ARTERY DISEASE [poor blood supply caused by narrowing of arteries; claudication] (Plan 4.1)	Adult; smoker. Recurrent pain: <ul style="list-style-type: none"> • May be in both legs, but usually worse in one. • Starts when exercising; may happen at night also. • Usually in calf muscles, sometimes foot. • An aching, tired feeling; may feel like a cramp. • Goes away with rest, within 10 min; may be made better by sitting, with legs down. Skin wounds do NOT heal well.	<i>Vital signs:</i> May have high blood pressure. <i>Appearance:</i> Skin dry, smooth, and shiny; less hair than normal; thick, deformed toenails. Skin feels cool. <i>Pulses:</i> Weak or NOT felt in foot. After squeezing big toe, it takes longer than 2 seconds for color to return to normal. Skin gets bluish-red color when hanging down; pale and cool when elevated.
COMPLETELY BLOCKED ARTERY (Plan 4.2)	Adult; may have: <ul style="list-style-type: none"> • Same history as with poor blood supply, above. • History of heart trouble. Pain: <ul style="list-style-type: none"> • In one leg. • Started all of a sudden. • Severe pain. • Nothing that patient does makes it better. Leg may also feel cold, numb, tingling, weak.	<i>Vital signs:</i> May have fast pulse, high blood pressure. Color: Pale; later may have spotty patches of color (mottled skin). Skin feels cool. <i>Pulses:</i> NOT felt in foot. Muscle weakness. Loss of feeling.
POOR CIRCULATION FROM VEIN DISEASE [Blood does not return well from leg veins] (Plan 4.3)	Adult; symptoms may be worse in one leg. Recurrent mild pain: <ul style="list-style-type: none"> • An aching, tired feeling; starts after standing for a while. • Cramps at night. • Made better by elevating legs. May have history of: <ul style="list-style-type: none"> • Swelling of ankles/legs. • Skin: Recurrent itching and sore (ulcer), often just above ankle. • Big vein (varicose vein). • Blood clot in leg vein. 	<i>Vital signs:</i> Normal. Often patient is overweight. Color: May be blue (cyanotic); brown color if long-term problem. May have big vein (varicose vein): <ul style="list-style-type: none"> • Seen easily when patient stands. • Blue, coiled-looking. • May be a little bit tender to touch, but is NOT warm, red, swollen. Swelling: May have pitting edema of ankles. Rest of exam is normal.
BLOOD CLOT IN LEG VEIN [thrombophlebitis] (Plan 4.4)	Adult. Pain (and usually swelling): <ul style="list-style-type: none"> • May have started slowly. • A dull ache; leg may feel tight. • Made worse by sitting with leg down. Often history of inactivity (being in bed a lot), recent female surgery, varicose veins, pregnancy, or taking birth control pills.	<i>Vital signs:</i> May have fever, fast pulse. One leg is more swollen and warmer than the other: <ul style="list-style-type: none"> • <i>If vein is just under skin:</i> Tender, warm, red, swollen area along path of vein, with firm "cord" felt. • <i>If vein is deeper:</i> May have pitting edema; calf tenderness when squeezing muscle and when pushing foot toward knee.

Chart 3.2

Leg Pain: Some Assessments and Typical Findings *(continued)*

Assessment	History	Exam of Vital Signs and Leg
SOFT TISSUE INFECTION (Assessment: p.318)	Started slowly, often after injury.	May have fever. Usually there is a wound/sore. Leg is inflamed, usually more than with clotted vein: <ul style="list-style-type: none"> • Tender, warm, red, swollen. • Pus may be seen. • May have red streak up leg. May have swollen, tender lymph nodes in groin.
BONE INFECTION [osteomyelitis] (Plan: p.246)	Adult complains of bone pain; child does NOT want to use the leg. Fever, chills.	Fever. Leg may be warm and swollen over the area. Bone tender to touch. Nearby joint movement may be <i>abnormal</i> .
JOINT INFECTION [septic arthritis] (Plan: p.246)	Often started fairly quickly. Adult complains of joint pain; child does NOT want to use the leg. Fever, chills.	Fever. Leg may be warm and swollen over the area. Joint tender to touch; joint movement <i>abnormal</i> , painful.
OTHER MUSCULOSKELETAL PROBLEM [injury, tendonitis, others] (Assessment: p.247)	History of injury, hard exercise, or recurrent problem. Pain made better by resting.	Temperature normal. Leg may have signs of injury: Swollen, bruised, injured part tender to touch. Tendon or bone may be mildly inflamed (tender, warm, red, swollen). Nearby joint movement may be <i>abnormal</i> . <i>Pulses: Normal.</i>
NIGHTTIME LEG CRAMPS (Plan 4.5)	More often in older patients. Recurrent muscle cramps: <ul style="list-style-type: none"> • Usually in calf, maybe foot • Made better by stretching or rubbing muscles, walking or sitting with legs down. 	May have mild calf tenderness when squeezing muscle, NOT when pushing foot toward knee. Rest of exam is normal.

[4] Recheck as follows:

- Recheck as recommended by referral doctor, sooner if patient is feeling worse.
- For long-term care if patient is doing well, recheck every 3 months.

4.2 Plan: Completely Blocked Artery

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor:

- *If an adult:*
 - ☐ follow this plan until you can reach a doctor.
 - ☐ arrange for transport to hospital.
- *If a child:*
 - ☐ this is probably the wrong assessment.
 - ☐ now go back to step 3. Try to make a more specific assessment and plan.

[2] Special care should include the following:

- Position: Keep patient lying down with leg at same level as the rest of his body:
 - ☐ do NOT elevate the leg.
 - ☐ do NOT let the leg hang down.
- Keep the leg cool, but do NOT let it freeze!
 - ☐ for example: uncover the leg; if room is cold, cover the leg lightly.

Chart 4.1

Patient Education
LEGS: POOR CIRCULATION
FROM ARTERY DISEASE

1. Take good care of your feet. They can be hurt easily.
 - Keep the skin clean and healthy:
 - ☐ wash with warm water. Dry well, but be gentle.
 - ☐ use skin cream recommended by the doctor. One with lanolin will help to keep skin soft.
 - Protect your feet:
 - ☐ wear shoes that fit well.
 - ☐ put padding between toes. Lamb's wool is good.
 - ☐ avoid injury from heat or cold.
 - If you get a cut, blister, or sore on your leg or foot:
 - ☐ wash it with soapy water as soon as possible.
 - ☐ do NOT put on any medicine, such as iodine.
 - ☐ cover it with clean gauze.
 - ☐ return to clinic to be checked.
2. **NO SMOKING!**
3. Diet:
 - Stay at the right weight. *If you are overweight*, you should slowly lose weight (p.446).
 - Eat less fat, especially fat that is solid at room temperature.
 - ☐ follow guidelines for a low fat diet (p.445).
 - Avoid alcohol.
 - Avoid caffeine (coffee, regular tea, cola drinks, chocolate; p.446).
4. Exercise is important to improve the blood supply:
 - Walk (exercise) for 1-2 minutes past the point when pain begins.
 - Repeat this 3 times a day.
5. Reduce stress:
 - Worry and stress help to cause high blood pressure and other blood vessel problems.
 - Follow guidelines on p.221.

- ☐ the cool leg will need less blood and oxygen to survive.
- Diet: Nothing by mouth.
- *If pain is severe* and you can NOT reach a doctor, give I.M. shot of MEPERIDINE (Demerol®) or MORPHINE (p.417).

- [3] Transport** adult to hospital as soon as possible. Patient probably needs surgery soon, to save the leg.
- If transport is delayed and patient needs fluid, give sips of clear liquids by mouth.

4.3 Plan: Poor Circulation from Vein Disease

- [1] Report** to your referral doctor.
- While you are waiting to report, follow this plan.

[2] Patient education should include the following:

- *If varicose vein:*
 - ☐ what causes this:
 - valves in vein are damaged.
 - blood backs up in vein.
 - vein gets bigger and coiled-looking.
 - ☐ protect the legs: A minor injury can break open a varicose vein and cause severe bleeding. *To stop bleeding*, apply pressure with a clean cloth.
 - Give information in chart 4.3.
- [3] Recheck** as follows:
- Recheck as recommended by referral doctor, sooner if patient is having problems.
 - For long-term care if patient is doing well, recheck once a year, with regular health surveillance.

4.4 Plan: Blood Clot in Leg Vein

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor:

- *If an adult:*
 - ☐ follow this plan until you can reach a doctor.
 - ☐ have someone arrange for transport to hospital.

Chart 4.3

Patient Education
LEGS: POOR CIRCULATION
FROM VEIN DISEASE

Usually this problem does NOT get better with time, but you can prevent it from getting worse:

1. Position: Whenever possible, rest *with feet up*.
2. Avoid things that will slow the blood flow and make the problem worse:
 - Do NOT sit or stand for a long time in one position.
 - Do NOT sit with legs crossed.
 - Do NOT wear girdles, garters, or other clothing with tight elastic in the top.
3. Take good care of your legs and feet. They can be hurt easily.
 - Keep the skin clean and healthy:
 - ☐ wash with warm water. Dry well, but be gentle.
 - ☐ use skin cream recommended by the doctor. One with lanolin will help to keep skin soft.
 - Protect your legs and feet:
 - ☐ wear shoes that fit well.
 - ☐ avoid injury, including injury from heat or cold.
 - If you get a cut, blister, rash, or sore on your leg or foot:
 - ☐ wash it with soapy water as soon as possible.
 - ☐ do NOT put on any medicine, such as iodine.
 - ☐ cover it with clean gauze.
 - ☐ return to clinic to be checked.
4. Diet: Stay at the right weight. *If you are overweight*, you should slowly lose weight (p.446).
5. Activity: Move around often during the day. Walking is good.
6. If possible, wear special "support stockings" to support the veins. It is especially important to wear these stockings:
 - When doing much standing.
 - When pregnant.

- *If a child:*
 - ☐ this is probably the wrong assessment.
 - ☐ if child has fever and leg is tender to touch, assessment is probably one of the following:
 - soft tissue infection.
 - bone infection.
 - joint infection.
 - ☐ Now go back to Step 3. Try to make a more specific assessment and plan.

[2] Special care should include the following, to reduce swelling and help prevent clots from moving to lungs:

- Activity. Little or none:
 - ☐ patient should rest in bed, until the doctor recommends something else.
 - ☐ if possible have patient use a bed pan rather than walk to the toilet.
- Position: Keep patient lying down with leg elevated about 4-8 inches above level of the heart:
 - ☐ elevate foot of bed, or
 - ☐ elevate foot on pillows, but do NOT let pillows block circulation.

[3] If leg is warm and red, do the following:

- Treat also for infection. It is hard to tell an infection from a clotted vein. Give an antibiotic:

Give an adult **ERYTHROMYCIN** (250 mg. tablets).

- **Dose: 500 mg. (2 tablets) four times a day.** Patient will need to take this antibiotic for 10 days.

- Apply warm wet cloths:
 - ☐ soak a cloth in warm, soapy water.
 - ☐ apply to skin. Cover with plastic wrap to keep in the heat.
 - ☐ do this for 15 minutes, at least four times a day.

[4] Transport patient to hospital.

[5] If you do NOT transport for some reason, recheck as follows:

- Recheck two times a day, sooner if you think patient is very sick or getting worse.

- Does patient have any new problems?
 - ☐ if chest pain or shortness of breath, go to p.42. Consider that the assessment is "blood clot in lung."
- Examine:
 - ☐ vital signs: T, P, R, BP.
 - ☐ leg: Look and feel to see if there are any changes.
- If patient is getting better, recheck once a day until doing OK. Then recheck before patient stops taking the antibiotic medicine.

4.5 Plan: Nighttime Leg Cramps

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.5.

Chart 4.5

Patient Education NIGHT TIME LEG CRAMPS

1. What causes these is often not known, but they seem to be made worse by lying with the foot positioned so that your toes are pointing away from you.
2. *To prevent leg cramps*, try to keep the weight of the covers off of your feet:
 - Loosen the bed covers.
 - Try a footboard, a board under the covers at the foot of your bed to keep the covers off of your feet.
3. *To stop a leg cramp*, do the following:
 - Stretch the calf muscle:
 - ☐ quickly bend the ankle so that toes are pointing toward your head.
 - ☐ if this does not help, get up and stand beside the bed or walk a little bit.
 - It may help to:
 - ☐ sit with your legs hanging over the side of the bed.
 - ☐ massage the muscles that hurt.

[3] Other plan depends on your doctor's assessment and may include the following medicines:

- QUININE, at bedtime.
- DIAZEPAM (Valium®), 2-4 mg. (small dose) at bedtime for painful leg cramps.

4.6 Plan: Other or Unknown Cause of Leg Pain

[1] Report to your referral doctor.

If you can NOT reach a doctor, while you are waiting, if patient is sick, he should rest in bed.

SHORTNESS OF BREATH

Begin here if patient has one of the following:

- Severe breathing problem.
- Shortness of breath from:
 - ☐ heart problem.
 - ☐ unknown cause.

Do NOT begin here for the following:

- Chest injury: Go to p.291.
- Chest pain is chief complaint: Go to p.19.
- Severe allergic reaction: Go to p.8.
- Asthma attack: Begin plan on p.304 as you get history and examine.
- Mild shortness of breath from respiratory illness/infection (cough, pneumonia, other): Go to p.296.
- Hyperventilation (fast, deep breathing; tingling of fingers, toes, lips): Go to p.208.
- Poisoning or drug overdose: Go to p.11.

1. Give Emergency Care If Severe Breathing Problem

1.1 Decide if an Emergency

[1] First check ABC's: Airway, Breathing, Circulation.

[2] Decide if patient has severe breathing problem (respiratory distress). Look at patient and use common sense. Appearance may include the following:

- General appearance may be:
 - ☐ looks very sick.
 - ☐ very short of breath, breathing fast.
 - ☐ working hard to breathe, trying to get air, gasping for breath.
 - ☐ must sit up to breathe.
 - ☐ making sound with breathing:
 - high-pitched sound when breathing in (stridor). *If so, and if a child less than age 8, do NOT examine throat with tongue blade! That may make child stop breathing!*
 - grunting sound when breathing out, especially in infant.
 - ☐ very nervous, anxious, afraid.
 - ☐ blue color of lips, fingernails (cyanosis).
- Nose: Flaring of nostrils with breathing in.
- Chest: Retractions (skin between ribs pulls in when patient breathes in).

[3] If NOT an emergency, now go to "2. History."

1.2 Emergency Care for All

[1] Reassure and calm the patient.

[2] Have patient rest, in position that feels best. Sitting usually helps.

[3] Give OXYGEN if needed: very short of breath; blue color of lips, nails.

- Follow guidelines on p.435.

[4] Check vital signs: P, R, BP.

- If shock (weak, fast pulse; low BP), now go to p.7.
- If abnormal pulse rate or rhythm, consider that this may be causing the problem.
 - ☐ if age 3 yrs. or more, now go to p.23.

[5] Get history quickly:

- History of present illness:
 - ☐ find out about the problem.
 - ☐ how did it start? Did it start quickly or slowly?
- Past Health History:
 - ☐ illnesses: Lung or heart disease?
 - ☐ medicines: What medicines is patient taking now?

[6] Examine quickly:

- Neck:
 - ☐ look at neck veins with patient sitting up straight. Do veins look full (a sign of heart failure)?
- Chest:
 - ☐ breath sounds.
 - ☐ percuss, if abnormal.
- Heart. Listen with stethoscope:
 - ☐ heart rhythm.
 - ☐ heart sounds.

[7] Report NOW to your referral doctor. Begin the following treatment while someone else contacts the doctor.

If you can NOT reach a doctor, have someone arrange for transport of very sick patient to hospital.

1.3 If a Child

Now go to "4. Assessment."

1.4 If an Adult

[1] Treat for possible heart failure if adult must sit up to breathe and has either of the following:

- Coughing up sputum with lots of bubbles (frothy sputum).
- Rales (crackles) heard in chest, in lower part of lungs.

Do the following:

- Position: Have patient sit up, with legs down.
- Give medicine to make less work for the heart:
 - ☐ to lower the blood pressure:

Give **NITROGLYCERIN** 0.4 mg. tablets:

- Only give if systolic BP (top number) is more than 105.
- **Give an adult one tablet under patient's tongue.** Tell patient: "Let it dissolve. Do NOT swallow tablet."
- Warn patient that he should get a sudden, throbbing headache.
- Recheck BP.
- If needed, and if systolic BP is more than 105, you may repeat 0.4 mg. NITROGLYCERIN every 5 minutes, up to a total of 6 doses (2.4 mg.).

- ☐ also give a diuretic to help remove fluid from the lungs:

Diuretic medicines are listed in order of recommended emergency treatment. Give an adult ONE of the following choices:

1. **FUROSEMIDE** (Lasix®; 10 mg./ml. for injection or 40 mg. tablets). If needed, plan to give every 8 hours. **Give one of the following:**

- **40 mg. by I.V. injection.**

- ☐ give only if doctor orders it.
- ☐ in this case, first start I.V., and run at very slow rate (6-10 drops/minute), just to "keep the vein open." Next, inject the medicine fairly quickly.

- **40 mg. by I.M. injection.**

- **80 mg. by mouth** (two 40 mg. tablets).

2. **HYDROCHLOROTHIAZIDE** (HCTZ; 50 mg. tablets).

- **Give 100 mg. by mouth** (two 50 mg. tablets).

- ☐ if needed, plan to give 100 mg. two times a day.

[2] Give medicine for wheezing, if adult who is very short of breath has any of the following:

- History:
 - ☐ COPD (Chronic Obstructive Pulmonary Disease).
 - ☐ asthma.
- Exam:
 - ☐ breath sounds: A lot of wheezes heard in all areas of the lung.

Medicine should include the following:

- Give inhalant medicine for wheezing. If possible, give patient's own medicine, as directed. Examples:

You may give
METAPROTERENOL or
ALBUTEROL.

- Have patient follow special instructions on p.440.
- Recheck vital signs and breath sounds.
- Repeat medicine, if needed, in 5-10 minutes.
- *If it helps*, patient can take up to 2 puffs every 4-6 hours, as needed.

- *If inhaled medicine is NOT available or if it does NOT help:*

Give *subcutaneous* shot of
EPINEPHRINE 1:1000.

- Do NOT give if:
 - ☐ past history of heart pain (angina) or heart attack.
 - ☐ dangerously high BP (160/110).
- **Give adult 0.3 ml.**
- Recheck vital signs and breath sounds.
- Repeat shot every 20-30 minutes, if needed, up to a total of 3 doses.

- *If the above is not available or if it does NOT help*, give medicine by mouth for wheezing. If possible, give patient's own medicine, as directed. Examples:

You may give an adult ONE of the following choices:

1. **AMINOPHYLLINE.**
 - **Dose: 200 mg.** four times a day.
2. **THEOPHYLLINE**
(Quibron-SR®; 300 mg. tablets).
 - **Dose: 300 mg.** (one tablet) two times a day.
3. **THEOPHYLLINE** liquid.
 - **Dose: 160 mg.** four times a day.
 - Be sure to check the strength of the medicine you are giving, so you give the correct amount.

[3] Next, go to "4. Assessment."

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** What makes it better or worse?
- Coughing or taking a deep breath?
 - Exercising?
 - A position of the body?
 - Resting? If rest helps, how long does it take?

- [2]** Recent history:
- Chest injury?
 - Eating home canned or fermented food in the past few days? *If so*, now go to p.281. Consider that the assessment is botulism.

2.2 Past Health History

- [1]** Illnesses:
- Lung disease, such as asthma, pneumonia, tuberculosis, bronchitis?
 - Heart trouble, such as:
 - ☐ heart pains (angina), heart attack?
 - ☐ heart failure?
 - ☐ abnormal heartbeat (palpitations)?
 - ☐ rheumatic fever?
 - High blood pressure?
 - Blood clot in the leg veins or lungs?
 - Diabetes?

[2] Operations:

- Chest surgery?

[3] Allergies?

[4] Medicines:

- What medicines is patient taking now?

2.3 Other History

[1] Does patient have any other complaints, such as:

- Fever or chills?
- Stuffy nose? Runny nose?
- Cough? If so, coughing up anything?
- Chest problem: pain, tightness, or discomfort? If so:
 - ☐ where exactly is the problem?

- ☐ when?
 - when exercising?
 - when taking a deep breath?

- Swelling (ankles, feet)?
- Big leg veins (varicose veins)?
- Symptoms of diabetes? Lately has patient been:
 - ☐ very thirsty?
 - ☐ urinating more than normal?
- Numbness (fingers, toes, lips)?

[2] Does patient smoke? If so:

- How many packs per day?
- For how many years?

3. Exam

3.1 General appearance.

3.2 Vital signs: T, P, R, BP.

3.3 Weight: Any change?

3.4 Neck:

- Look at neck veins with patient sitting up straight. Do veins look full (a sign of heart failure)?

3.5 Chest:

- Appearance.
- Breath sounds:
 - ☐ quieter than normal?
 - ☐ different on one side of body?
 - ☐ clear, or with
 - rales (crackles), especially in lower lungs?
 - rhonchi (snoring sounds, change with cough)?
 - wheezes?
- If abnormal, percuss (p.387). Is sound:
 - ☐ different on one side of body?
 - ☐ more "hollow" or more dull than normal?

3.6 Heart:

- Have patient lie down, if possible.
- Look and feel carefully for heartbeat, near left nipple.
- Listen with stethoscope:
 - ☐ heart rhythm. *If NOT regular*:
 - describe it.
 - count heart rate (apical rate).
 - ☐ heart sounds: Normal? Murmur?

3.7 Abdomen:

- Feel for:
 - ☐ tenderness, lumps.
 - ☐ enlarged liver (right side).

3.8 Lower legs:

- Appearance: Swollen?
- Feel lightly, on surface, for temperature, tenderness.

- Check for muscle/vein tenderness:
 - ☐ squeeze calf muscles.
 - ☐ if calf tenderness, check for deep leg vein problems: With leg straight, quickly push ball of foot (widest part) toward the knee, bending the ankle (p.397). Does this cause pain in the calf?
- Check for pitting edema: Press

thumb firmly over shin bone for 1-2 seconds (p.397).

than 250 on Dextrostix®), treat as on p.60.

3.9 Lab tests:

- If coughing up sputum, look at it.
- If symptoms or history of diabetes, check blood sugar (glucose).
 - ☐ if very high blood sugar (more than 400 on Chemstrip® or more

4. Assessment

4.1 Your assessment should be:

Shortness of breath.

4.2 Make a more specific assessment. Use chart 4.2.

Chart 4.2

Shortness of Breath: Some Assessments and Typical Findings

Assessment	History	Exam
HEART FAILURE [heart can not pump blood well enough] (Plan 5.1)	Shortness of breath worse when exercising, lying down. May cough up sputum: clear or with lots of bubbles.	Wants to sit up to breathe. Weight gain. Neck: Veins may look full. Breath sounds: Rales in lower lungs; may also have wheezes. Abdomen: Enlarged liver. Lower legs: May have pitting edema.
COLLAPSED LUNG [pneumothorax] (Plan 5.2)	Often young active person, or history chronic lung disease. Shortness of breath started all of a sudden, often when exercising. Often has chest pain, worse with deep breath and certain body positions. Maybe recent chest injury.	Chest: • Skin may feel crackly, from air in skin (subcutaneous emphysema). • Breath sounds: Quieter on one side of chest. • Percussion: More hollow than usual on quiet side of chest.
BLOOD CLOT IN LUNG [pulmonary embolus, PE] (Plan 5.3)	Adult. Shortness of breath often started all of a sudden. Cough, maybe coughing blood. May have chest pain, worse with deep breath. Often history of inactivity (being in bed a lot), recent female surgery, varicose veins, pregnancy, or taking birth control pills.	If severe: • Blue color of lips, nails. • Shock (weak, fast pulse; low BP). Legs: May have signs of blood clot in leg vein: tender, warm, red, swollen.
HEART ATTACK [myocardial infarction; caused by complete block of an artery that brings blood to heart muscle] (Plan: p.22)	Adult; often a smoker. Shortness of breath usually started along with chest pain, tightness, pressure, "squeezing," or discomfort: • Usually felt under breast bone or in front of chest on left side. • May also go to one or both arms, back, neck, or jaw. • Often gets worse & worse. Other symptoms may include: sweating; abnormal heart beat; nausea, vomiting; symptoms of heart failure, as above.	General appearance: Nervous, anxious, afraid, sweaty, pale. Vital signs: • Pulse may be irregular. • May get shock (weak, fast pulse; low BP). Exam may also show heart failure, as above. Exam may be normal except that patient may look nervous, anxious, afraid.

Shortness of Breath: Some Assessments and Typical Findings (continued)

Assessment	History	Exam
HYPERVENTILATION [caused by breathing too fast] (Plan: p.208)	Patient feels he can not breathe in enough air. May feel faint, light-headed. Numbness and tingling of fingers, toes, and lips. Next, may get muscle twitches or cramps in hands and feet.	<i>General appearance:</i> • Patient looks scared. • Good color. • Breathing looks OK or looks deep and fast. Rest of exam is normal.
CROUP (Plan: p.303)	Age: Usually less than 3 yrs. Usually other children in village sick with same thing. Started with a headcold. "Seal-bark" cough.	<i>General appearance:</i> High pitched sound when breathing in; if severe: restless, blue color. "Seal-bark" cough. <i>Voice:</i> Hoarse. <i>Chest:</i> May have retractions; breath sounds: fairly quiet.
EPIGLOTTITIS (Plan: p.303)	Age: Usually 3-7 yrs. Shortness of breath started fairly quickly. Also: sore throat, hurts to swallow; drooling.	<i>General appearance:</i> Very sick; high pitched sound when breathing in; prefers to sit; drooling; will not swallow; severe: restless, blue color. Fever. <i>Voice:</i> Usually NOT hoarse. <i>Chest:</i> If severe: retractions; breath sounds: fairly quiet.
BRONCHITIS [chest cold] (Plan: p.303)	Cough; maybe with cloudy, yellow sputum. May have symptoms of headcold. History often includes lung disease or smoking.	May have low fever. Breath sounds, change with cough: Rhonchi; may have a few wheezes.
ILLNESS WITH WHEEZING: BRONCHIOLITIS (Plan: p.304)	Age: Less than 2 yrs. Wheezing when breathing out. May have symptoms of headcold.	Usually does NOT look very sick. May have fever. May have otitis media also. <i>Chest:</i> May have retractions; breath sounds: noisy, wheezes when breathing out.
ILLNESS WITH WHEEZING: ASTHMA ATTACK (Plan: p.304)	Age: 4 yrs. or more. Wheezing when breathing out. Cough. Often patient first has a headcold. Past health history: Repeated respiratory illnesses with wheezing; allergies.	<i>Chest:</i> • May have retractions. • Breath sounds: Quieter than normal; wheezes when breathing out; breathing out time is longer than normal. • Percussion: May be more "hollow" than normal.
PNEUMONIA (Plan: p.305)	Often started fairly quickly. Cough with cloudy, yellow, or "rusty" colored sputum. Chest pain: with cough; with deep breath.	<i>General appearance:</i> Looks sick; if infant: grunting when breathing out. <i>Vital signs:</i> Fever; fast pulse; fast respirations. <i>Chest:</i> May have retractions; breath sounds abnormal: different on one side of body (quieter, or louder, or like listening over windpipe); rales (crackles).

4.3 Include in your assessment that the shortness of breath is caused by one of the following:

- **Heart failure** (Plan 5.1).
- **Collapsed lung** (Plan 5.2).
- **Blood clot in lung** (Plan 5.3).
- **Heart attack** (Plan: p.22).
- **Hyperventilation** (Plan: p.208).
- **Croup** (Plan: p.303).
- **Epiglottitis** (Plan: p.303).
- **Bronchitis** (Plan: p.303).
- **Illness with wheezing:**
 - ☐ **bronchiolitis** (Plan: p.304).
 - ☐ **asthma attack** (Plan: p.304).
- **Pneumonia** (Plan: p.305).
- **Other or unknown cause of shortness of breath** (Plan 5.4).

5. Plan

5.1 Plan: Heart Failure

[1] Report NOW to your referral doctor.

- While you are waiting to report:
 - ☐ for emergency care, go to "1. Give Emergency Care If Severe Breathing Problem."
 - ☐ for general patient education, go to p.47, "Heart Problem."

5.2 Plan: Collapsed Lung

[1] Report NOW to your referral doctor. Begin the following treatment while someone else contacts the doctor.

If you can NOT reach a doctor, have someone arrange for transport to hospital as soon as possible.

[2] Give OXYGEN, if needed. Give if very short of breath; blue color of lips, nails.

- Follow guidelines on p.435.

[3] Check for tension pneumothorax, also an emergency:

- Exam here may also show:
 - ☐ blue color (cyanosis).
 - ☐ **neck:**
 - with patient sitting up, veins look full.
 - windpipe in lower part of neck may be pushed toward the good side (away from the quiet side).

- How this happens: Collapsed lung leaks air, builds up pressure, pushes heart and lungs to one side.
- If tension pneumothorax:
 - ☐ try again to contact your referral doctor.
 - ☐ if you have experience with this problem, he may tell you to stick a large I.V. catheter or a flutter valve into the chest cavity just above one rib, to let off the pressure.

[4] Transport patient to hospital as soon as possible. While you are waiting to transport, your plan should include the following:

- Stay nearby.
- Reassure patient.
- Recheck vital signs, neck and chest exam every hour, more often if needed.

5.3 Plan: Blood Clot in Lung

[1] Report NOW to your referral doctor. Begin the following treatment while someone else contacts the doctor.

If you can NOT reach a doctor, have someone arrange for transport to hospital as soon as possible.

[2] Medicine should include:

- Give OXYGEN, if needed: very short of breath; blue color of lips, nails.
 - ☐ follow guidelines on p.435.
- Plan to give ASPIRIN (325 mg. tablets) once a day:
 - ☐ give an adult 625 mg. (two tablets).
 - ☐ ASPIRIN may prevent more clots from forming.
- *If pain is severe* and you can NOT reach a doctor, give I.M. shot of MEPERIDINE (Demerol®) or MORPHINE (p.417).

[3] Special care should include the following:

- Activity: Little or none. To help prevent more clots from moving to lungs, patient should:
 - ☐ rest in bed.
 - ☐ use a bed pan rather than walking to the toilet.

- *If tender, warm, red, swollen leg,* also treat for "Blot Clot in Leg Vein," p.38.

[4] Transport patient to hospital as soon as possible. While you are waiting, your plan should include the following:

- Stay nearby.
- Reassure patient.
- Recheck vital signs every hour, more often if needed.

5.4 Plan: Other or Unknown Cause of Shortness of Breath

[1] Report to your referral doctor.

If you can NOT reach a doctor, do the following:

- Consider other assessments:
 - ☐ go back to step 4. Try to make a more specific assessment.
 - ☐ if infant or small child, go to "Approach to the Sick Child," p.197.
- For general patient education, go to p.47: "Heart Problem."

HEART PROBLEM: LONG-TERM CARE

Begin here for long-term care of patient with a heart problem. This includes patient with history of:

- Abnormal heart rate or rhythm (arrhythmia).
- Angina (heart pains).
- Birth defect (congenital defect) of heart.
- Heart attack.
- Heart failure.
- Heart surgery.
- Pacemaker.
- Rheumatic fever with heart murmur or other heart damage.
- Other heart problems, except those noted that follow.

Do NOT begin here for the following:

- Patient is ill now with:
 - ☐ severe chest pain: Go to p.19.
 - ☐ severe shortness of breath: Go to p.39.
 - ☐ abnormal heart rate or rhythm: Go to p.23.
- History of:
 - ☐ high blood pressure only: Go to p.33 for long-term care.
 - ☐ rheumatic fever with no heart murmur or other heart damage: Go to p.48 for follow-up care.
 - ☐ normal (functional, benign) heart murmur: Recheck this patient with regular health surveillance (p.441).

1. Get Information from the Doctor

You need to know the doctor's assessment and plan, including:

1.1 Medicine: Is patient supposed to be on any medicine?

- If so, for each medicine, find out the following:
 - ☐ name.
 - ☐ dose.
 - ☐ how often patient should take it.
 - ☐ warnings and side effects patient should look for.
 - ☐ possible problems when taking other medicine at the same time (drug interactions).
 - ☐ will prescription need to be changed (increased or stopped)?
- If history of rheumatic fever, patient will need antibiotic medicine until age 25-30 yrs. to prevent more heart damage from strep infections.
 - ☐ usually you will give I.M. shot of BENZATHINE PENICILLIN (Bicillin LA®) once a month.
 - ☐ if allergic to PENICILLIN, doctor will prescribe another antibiotic.

1.2 Are there any special problems or symptoms to watch for in this patient?

- What should patient do and what should CHA/P do if patient gets:
 - ☐ chest pain?
 - ☐ abnormal heart rate/rhythm?
- Does patient need antibiotics before any dental work or any procedure that may cause bleeding? If so:

- ☐ write this on patient's problem list.
- ☐ label front of patient's chart.
- ☐ tell patient to be sure he tells this to every health care provider who takes care of him.
- ☐ for more information, see "Patients at High Risk for Heart Infections" at end of this section.

• If *pacemaker patient*, also find out the following:

- ☐ what is the normal pulse (heart rate) for this patient? It will probably be 60-100.
- ☐ what is the *slowest* the pulse should be?
- ☐ what were patient's problems before he got the pacemaker?

1.3 Is there other special patient education, such as:

- Things patient should avoid?
- Diet:
 - ☐ low fat (p.445), low salt (p.445), or other special diet?
 - ☐ should patient lose weight? What should patient weigh?
- Exercise: what sort of regular exercise is good for this patient?
- 1.4** Does patient need any special appointments, tests, or surgery?
- If so, how will these be arranged?
- If *pacemaker patient*:
 - ☐ appointments: Patient may need to be seen at hospital every 6-12 months.
 - ☐ battery recheck test: If NOT done by phone, patient may need to go to the hospital every 3 months.
- If a *child*: Is financial aid available for travel?

2. Get History From Patient

2.1 If on medicine:

- Does patient take medicine as directed?
- Are there side effects or problems from the medicine?
- If on *DIGOXIN*, does patient have:
 - ☐ change in vision (colors looking abnormal; seeing rings around bright lights)?
 - ☐ nausea?

2.2 Does patient have any problems, such as:

- Cough? If so, coughing up anything?

- Shortness of breath? If so, when?
 - ☐ when exercising?
 - ☐ when lying down?
- Abnormal heartbeat?
- Chest problem: pain, tightness, or discomfort? If so:
 - ☐ where?
 - ☐ when?
 - when exercising?
 - when taking a deep breath?
 - does pain wake up patient at night?
 - ☐ what does it feel like?
 - ☐ is it there all the time or does it come and go?
 - ☐ what makes it better or worse?
 - ☐ if *angina*, has the pain changed recently? For example:
 - starting after less exercise than usual?
 - lasting longer?
 - not getting better with usual treatment?
- Feeling faint (light-headed) or fainting (passing out)? If NOT, ask about vision changes, such as "grey vision" some patients get when they almost faint?
- Muscle cramps?

2.3 If *pacemaker patient*, also ask about these problems:

- Feeling like he did before he got the pacemaker?
- Feeling strange (dizzy, faint) when near a running engine or some other piece of equipment?
- Hiccups that continue for a long time, or twitching in his chest muscles (signs that pacemaker wire is in the wrong place)?
- Pain around the pacemaker (possible infection)?

2.4 If *infant or young child*, also ask about the following:

- Warnings of heart failure, such as:
 - ☐ acting weak or getting tired easily when eating?
 - ☐ problems keeping up with other children in active play?
 - ☐ sweating a lot?
 - ☐ getting blue color of lips or fingernails?
 - ☐ swelling, especially of face or eyelids?
- Normal development (p.189).

3. Exam

Check for changes from patient's usual exam:

3.1 General appearance:

- Blue color of lips or nails (cyanosis)?

3.2 Vital signs: P, R, BP.

3.3 Weight.

3.4 If a child, also:

- Check height.
- Plot height and weight on growth chart.
- Decide if each is growing normally.

3.5 Chest:

- Breath sounds.
 - ☐ listen for rales (crackles; an early sign of heart failure).

3.6 Heart:

- Have patient lie down.
- Look and feel carefully for heartbeat, near left nipple.
- Listen with stethoscope:
 - ☐ heart rhythm. Listen for at least one minute. *If NOT regular:*
 - describe it.
 - count heart rate (apical rate).
 - ☐ heart sounds: Murmur? Listen carefully for any change from the way patient's heart usually sounds.

3.7 Lower legs:

- Check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds (p.397).

3.8 If pacemaker patient, also check skin on top of pacemaker for signs of infection: Is it tender to touch, warm, red, swollen?

4. Assessment

4.1 Your assessment should be:

Heart problem: long-term care.

4.2 Be more specific, if possible. For example, your assessment may include one of the following problems:

- **Abnormal heart rate/rhythm.**
- **Angina (heart pains).**
- **Birth defect of heart.**
- **Heart attack.**
- **Heart failure.**
- **Heart surgery follow-up.**
- **Pacemaker.**
- **Rheumatic fever history with heart murmur or other heart damage.**

4.3 Also include in your assessment:

- "Doing well," if no problems.
- Problems with medicine:
 - ☐ side effects.
 - ☐ NOT taking as directed.
- Other problems you have found, such as:
 - ☐ angina pain is getting worse (patient may have high risk of getting heart attack).
 - ☐ patient with history of heart attack is having chest pain.
 - ☐ warnings of heart failure:
 - coughing up sputum: clear or with lots of bubbles.
 - shortness of breath, worse when exercising or lying down.
 - weight gain.
 - neck: veins look full.
 - breath sounds: rales in lower lungs.
 - lower legs: pitting edema.
 - other warnings in infant or small child (as above, in step 2.4).
 - ☐ abnormal heart rate or rhythm.
 - ☐ abnormal development or growth curve in child.

5. Plan

5.1 Patient education. If possible, get patient education handouts from your referral hospital or other sources. Include the following information:

If angina patient, include the following:

- General information about angina (found at the end of this section).
- What to do when chest pain comes on:
 - ☐ sit and rest immediately.
 - ☐ take medicine:

Take **NITROGLYCERIN** 0.4 mg. tablets:

- Tell patient: "Put one tablet under your tongue. Let it dissolve. Do NOT swallow tablet."
- Warn patient that he should get a sudden, throbbing headache.
- Patient may repeat the 0.4 mg. NITROGLYCERIN every 5 minutes, if needed, up to a total of 3 doses (1.2 mg.).

- *If pain does NOT go away* after 15 minutes of rest and 3 NITROGLYCERIN tablets:
 - ☐ patient should send someone to get you.
 - ☐ treat patient for possible heart attack (p.22).
- *If angina pain is changing* (is different from patient's usual angina), he should see you.
 - ☐ changing angina is a danger sign that a heart attack may happen.

If heart attack patient, include the following:

- General information about heart artery problems: angina and heart attack (found at the end of this section).
- What patient should do if chest pain comes on:
 - ☐ sit and rest immediately.
 - ☐ take **NITROGLYCERIN** tablet, the same as for angina, if ordered by referral doctor.
 - ☐ have someone report to CHA/P as soon as possible.

If heart failure patient, include general information about heart failure (found at the end of this section).

If pacemaker patient, include the following:

- A pacemaker may rarely be turned off by certain types of equipment, such as: large motors, boat engines, snow machines, radar equipment, older models of microwave ovens. Patient should:
 - ☐ tell friends/family about this and stay with someone when he is around such equipment. If he passes out near such equipment, they should pull him away!
 - ☐ stay away from equipment that causes him a problem, such as making him feel faint.
- General information about what a pacemaker is and battery recheck (found at the end of this section).

General information, for all should include:

- As recommended by your referral doctor:
 - ☐ what to do if patient gets:

- chest pain.
- abnormal heartbeat.
- ☐ things patient should avoid.
- Give advice in chart 5.1.

Chart 5.1

Patient Education HEART PROBLEM

1. NO SMOKING!
2. Diet:
 - Stay at the right weight. *If you are overweight*, you should slowly lose weight (p.446).
 - Eat less fat, especially fat that is solid at room temperature.
 - ☐ follow guidelines for a low fat diet (p.445).
 - Avoid alcohol.
 - Avoid caffeine (coffee, regular tea, cola drinks, chocolate; p.446).
 - Most patients should avoid salt:
 - ☐ avoid eating salty foods (p.445).
 - ☐ do NOT add salt to food at the table.
3. Get enough rest.
4. Exercise regularly:
 - Plan to walk or get other exercise for 20 minutes, at least 3 times a week.
 - ☐ do NOT get short of breath.
 - Consult your doctor before starting! You may need special instructions.
5. Reduce stress:
 - Worry and stress help to cause high blood pressure and other heart problems.
 - Follow guidelines on p.221.

5.2 If on medicine: your plan should include the following:

- Discuss importance of taking medicine.
 - ☐ patient should let you know when he is running low, in time to get a refill.
- Remind patient about warnings and possible side effects.
- If side effects, treat as recommended by your referral doctor.

- Give patient a refill, if needed.
- *If history of rheumatic fever*, give patient antibiotic medicine:

Give I.M. shot of **BENZATHINE PENICILLIN** (Bicillin LA®) once a month:

Weight	Approximate Age	Dose
35-49 lbs.	4-6 yrs,	900,000 Units
50 lbs. or more	7 yrs. or more	1,200,000 Units

OR,

If allergic to PENICILLIN, give an oral antibiotic prescribed by your referral doctor.

5.3 Recheck: Make appointment for next visit. If doing well, see patient as follows:

- **If a child:**
 - ☐ age less than 6 months: once a month.
 - ☐ age 6 months or more:
 - every 3 months for a year.
 - after that, once a year.
- **Abnormal heart rate or rhythm** (arrhythmia): every 3 months.
- **Angina** (heart pains): every 3 months.
- **Heart attack** history:
 - ☐ once a week for the first month.
 - ☐ every 3 months after that.
- **Heart failure:** every 3 months.
- **Heart surgery follow-up:** as recommended by your referral doctor.
- **Pacemaker:** once a month.
- **Other heart problem:** at least every 3 months.

5.4 Report to your referral doctor:

- If possible, send a copy of your SOAP note to the referral doctor. Contact him sooner if you found any problems, including if patient is ill. Even if an illness seems minor, it may be serious in this patient.
- Ask doctor about special immunizations that are needed for this patient (flu, pneumococcal).

5.5 Other plan should include the following:

- Order more medicines, if needed.
 - ☐ fill out the pharmacy refill request, if needed.
- Check to see that:
 - ☐ patient's name is on list of patients to be seen on a field trip by doctor, PHN.
 - ☐ this chronic problem and patient's medicines are written on patient's problem list.

Heart Problems: General Information

Patients at High Risk for Heart Infections

Certain patients have a high risk for getting infections of the heart. Your referral doctor can tell you if a patient is at risk. Patient may have history of:

- Heart surgery.
 - ☐ patient with artificial heart valve has a high risk.
- Heart disease.
- Heart murmur.

To prevent infections of the heart, these patients need antibiotics *before* any procedure that may cause bleeding:

- Examples:
 - ☐ minor surgery, including opening an abscess (boil).
 - ☐ dental work.
- Another term for this type of antibiotic use is "Needs SBE Prophylaxis."

These patients also need prompt treatment of infections.

Heart Artery Problems: Angina and Heart Attack

Angina = heart pain. It is a type of heart pain caused by poor blood (oxygen) supply to the heart muscle.

- Poor blood supply to the heart muscle is usually caused by narrowing of the coronary arteries that bring blood to the heart muscle.

Understanding the pain: A patient with angina usually has pain that starts when exercising and stops when patient rests or takes NITROGLYCERIN medicine:

- When patient exercises, the heart pumps faster. Heart muscle needs more oxygen, but it can NOT get enough:
 - ☐ oxygen is carried in the blood.
 - ☐ not enough blood can get through the narrow arteries.
 - ☐ this lack of oxygen causes the pain of angina (p.20).
- When patient rests, the heart needs less oxygen:
 - ☐ heart muscle gets enough blood and oxygen through the narrow arteries.
 - ☐ the pain stops.
- When patient takes a NITROGLYCERIN tablet:
 - ☐ blood vessels change, throughout the body.
 - ☐ the heart muscle gets enough blood and oxygen.
 - ☐ the pain stops.

Heart attack happens when there is a complete blockage of an artery that brings blood to the heart muscle.

- This blockage causes the severe chest pain of a heart attack, and other symptoms (p.20).
- Part of the heart muscle will die, which may cause other problems, such as abnormal heart rhythm and death.

Heart Failure

Here the heart can NOT pump blood well enough. Blood backs up. One or both sides of the heart may fail:

- *If right side of heart fails*, blood backs up before it gets to the heart. Findings may include:
 - ☐ neck: veins look full.
 - ☐ abdomen: enlarged liver.
 - ☐ lower legs: pitting edema.
- *If left side of heart fails*, blood backs up into the lungs (pulmonary edema). Findings may include:
 - ☐ history: shortness of breath; wants to sit up to breathe.
 - ☐ breath sounds: rales (crackles) heard in lower lungs.

Pacemaker

A pacemaker has a battery and wire. It is put into the body so that the wire touches the heart muscle. The wire gives the heart an electric message, when needed, to make the heart beat at a more normal rate and rhythm. A pacemaker is put in a patient to prevent certain types of abnormal heart rate/rhythm problems.

Battery recheck is needed about once a month.

- Most patients who live in a village with a telephone get a phone call from the pacemaker company once a month. This patient should have something like a radio that makes a sound when held near the pacemaker. The sound is sent over the phone, and shows if the battery is still strong.
- A new battery is usually needed every 10-12 years.

Rheumatic Fever

See p.49.

RHEUMATIC FEVER: FOLLOW-UP CARE

Begin here for follow-up care of patient with history of rheumatic fever and NO heart murmur or other heart damage.

- This is a "Bicillin® Monday" patient with no heart problems.

Do NOT begin here if patient has history of heart murmur or other heart damage from rheumatic fever: Go to p.44 for long-term care.

1. Get Information from the Doctor

You need to know the doctor's assessment and plan, including:

1.1 Medicine. Patient will need antibiotic medicine until age 25-30 yrs. to prevent heart damage from strep infections:

- Usually you will give I.M. shot of BENZATHINE PENICILLIN (Bicillin LA®) once a month.
- If allergic to PENICILLIN, doctor will prescribe another antibiotic.

1.2 Are there any special problems or symptoms to watch for in this patient?

1.3 Is there other special patient education?

1.4 Does patient need any special appointments or tests? If so, how will these be arranged?

2. Get History From Patient

2.1 *If on medicine by mouth:*

- Does patient take medicine as directed?
- Are there side effects or problems from the medicine?

2.2 Does patient have any problems, such as:

- Sore throat?
- Warnings of heart failure:
 - ☐ problems keeping up with others in work or play?
 - ☐ weight gain?
 - ☐ shortness of breath?
 - ☐ swelling of ankles?

3. Exam

3.1 Vital signs: P, R, BP.

3.2 If problems, also check the following for changes from patient's usual exam:

- Vital signs: Temperature.
- Weight.
- Throat.
- Chest: Breath sounds.
- Heart:
 - ☐ have patient lie down.
 - ☐ look and feel carefully for heartbeat, near left nipple.

- ☐ listen with stethoscope:
 - heart rhythm: Listen for at least one minute. *If NOT regular*: describe it; count heart rate (apical rate).
 - heart sounds: Normal? Murmur? Something else NOT normal?
- Lower legs. Check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds.

4. Assessment

4.1 Your assessment should be:
Rheumatic fever: follow-up care.

- 4.2** Include in your assessment:
- “Doing well,” if no problems.
 - Any problems you have found.

5. Plan

- 5.1 Patient Education** is important, so that patient can prevent heart damage.
- If needed, get patient education handouts from your referral hospital or other sources.
 - Also, give information in chart 5.1.

5.2 Medicine plan should include the following:

- Discuss importance of taking medicine.
- Give antibiotic medicine:

Give I.M. shot of **BENZATHINE PENICILLIN** (Bicillin LA®) once a month:

Weight	Approximate Age	Dose
35-49 lbs.	4-6 yrs.	900,000 Units
50 lbs. or more	7 yrs. or more	1,200,000 Units

OR,

If allergic to PENICILLIN, give an oral antibiotic prescribed by your referral doctor.

5.3 Recheck: Make appointment for next visit. If doing well, see patient once a month:

Chart 5.1 Patient Education IF YOU HAVE HAD RHEUMATIC FEVER

1. Prevent strep infections, which can cause heart damage:
 - Avoid people with headcolds, sore throats.
 - Come to clinic once a month:
 - ☐ antibiotic medicine is needed to prevent strep infections.
 - ☐ come sooner if fever, sore throat, or other problems.
2. NO SMOKING!
3. Diet:
 - Stay at the right weight. *If you are overweight*, you should slowly lose weight (p.446).
 - Eat a well-balanced diet every day, with foods from the four food groups (p.444).
 - Avoid alcohol.
 - Avoid caffeine (coffee, regular tea, cola drinks, chocolate; p.446).
4. Exercise regularly:
 - **Lead a normal life.**
 - Walk or get other exercise for 20 minutes, at least 3 times a week.
 - ☐ try not to get short of breath.
5. Reduce stress (p.221).

- The first Monday of each month is “Bicillin® Monday” in most places in Alaska.
- Patient should get a card in the mail from Anchorage to remind him to see you on that day.

5.4 Report to your referral doctor:

- If possible, send a copy of your SOAP note to the referral doctor. Contact him sooner if you found any problems, including if patient:
 - ☐ will NOT take the antibiotic medicine.
 - ☐ has possible strep infection.

5.5 Other plan should include the following:

- Order more medicines, if needed.

- Check to see that this chronic problem is written on patient's problem list.

Rheumatic Fever: General Information

What Is It?

Rheumatic fever is a disease that (rarely) follows a throat infection from certain strep bacteria. In some way, the part of our blood that fights the strep infection also attacks parts of the body. The heart may be damaged.

Making the Assessment

Main findings on exam include one or more of the following:

- Heart: Rate or rhythm problem; new or changed murmur; heart failure; other problems.
- Joints: Arthritis (tender, warm, red, swollen joint); as one joint starts to get better, another joint may get arthritis.
- Nervous system: Movement with NO purpose. Patient can not control it.
- Skin:
 - ☐ rash: may appear and disappear; unusual appearance (may look like curved red lines drawn on skin).
 - ☐ lumps may be found under the skin: on scalp, over the spine, and near the bony part of joints; small, size of a dime or less; solid, firm; NOT tender to touch.

Other findings may include:

- History:
 - ☐ feeling tired.
 - ☐ loss of appetite.
 - ☐ nosebleeds.
 - ☐ joint pains.
- Exam: low fever.

Treatment Plan

Treatment includes:

- Medicine:
 - ☐ PENICILLIN for 10 days, if any signs of infection in ears, throat, respiratory system.

- ASPIRIN every 4 hours.
- Rest.

Rheumatic Fever: Prevention

Antibiotic treatment of strep throat infections, started within 9 days after infection begins.

DRAWING BLOOD & DOING BLOOD TESTS

DRAWING BLOOD FROM A VEIN

DRAWING BLOOD FROM A VEIN

Equipment/supplies needed:

ALCOHOL or POVIDONE-IODINE (Betadine®) wipes
2x2's (gauze sponges)
Rubber blood drawing tourniquet or blood pressure cuff
Blood collection tubes, labeled with patient's name
Band-aids®

If using Vacutainer® type:

Reusable plastic holder

Needle: Double-pointed, screw-in

If using syringe:

10 or 20 cc. syringe

20G needle (or smaller, if child)

1. Get Set Up

1.1 Patient should sit or lie in a comfortable position.

- If a child or uncooperative patient, have helper plan to hold patient so arm can not move.

1.2 Explain to patient what you will do.

1.3 Wash your hands. If there is no clean water available, wipe your hands with ALCOHOL or POVIDONE-IODINE (Betadine®).

1.4 Get equipment ready.

- Check to see that you have all of the equipment listed above.
 - if small child, your referral doctor may suggest that you use a syringe attached to a Butterfly® type I.V. needle.
- Lay equipment out so that it is handy to use.
- *If using Vacutainer® type, do the following:*
 - screw needle into plastic holder.
 - gently insert blood collection tube into plastic holder.
 - needle should stick into rubber stopper a very small distance.
 - if there is a line on the plastic holder, push tube up to that line.
 - *if you hear air suck into tube, discard tube and insert another, NOT as far in.*
- *If using syringe, do the following:*
 - get syringe and needle ready, the same as for using injectable medicine (p.419).
 - move plunger back and forth to be sure it works OK.

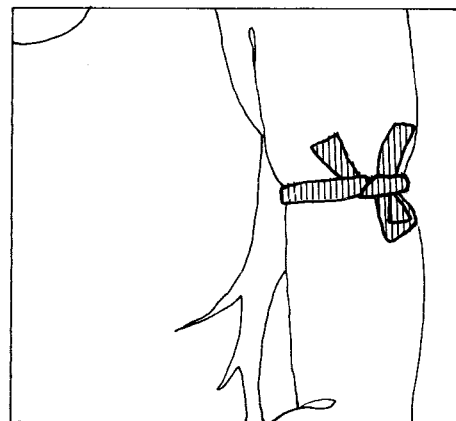
2. Find a Good Vein

2.1 Have patient lower his arm. Let it hang for a moment.

2.2 Put on tourniquet, above elbow, gently but firmly.

- Use:

- a rubber tourniquet for blood drawing, or
- a blood pressure cuff inflated to about 40-60 mm.

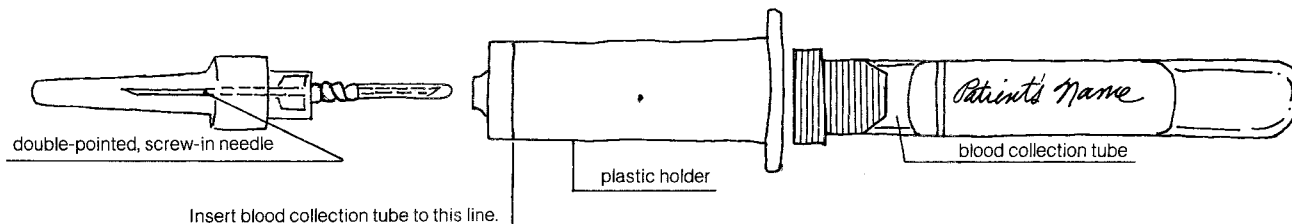


Put on tourniquet.

- If tourniquet is on for a while, loosen it every 2-3 minutes to make patient more comfortable. Then reapply it.

2.3 Look for a good vein:

- Feel for a vein near the bend of the elbow.
- Pick a vein that is fairly straight.
- The vein should stand out and have a "spongy" feel.
- Do NOT find an artery by mistake:
 - feel for a pulse.
 - avoid pulse with needle.



- If you hit an artery, there will be a "pulse" of blood through the needle. Patient may also complain of shooting pain or numbness if you hit the nearby nerve. If this happens:
 - ☐ when you take out the needle, press where needle was for at least 5 minutes, to allow clot to form.
- When you find a good vein, go to "3. Get Skin Ready and Insert Needle."

If you can NOT find a good vein, you can help to fill veins with blood and make them stand out better. Do some or all of the following:

- With tourniquet in place, drop arm below level of the heart.
- Slap where vein is.
- Have patient make a fist several times.
- Rub arm from hand toward body.
- Put a warm, wet towel on the arm for a minute or two.

3. Get Skin Ready & Insert Needle

3.1 Rest arm on table for support.

3.2 Feel vein again.

3.3 Clean skin well with ALCOHOL or POVIDONE-IODINE (Betadine®):

- Wipe skin where you will put in needle.
- Wipe your fingertips that may need to feel the vein again.
- Let skin dry.

3.4 Remove needle cover. Do NOT touch needle. It is sterile.

3.5 With one hand, hold Vacutainer® or syringe firmly:

- Rest your hand on patient. This will keep your hand steady.
- Needle should be:
 - ☐ with bevel up.
 - ☐ at small angle to skin.
 - ☐ pointing right at the vein.
 - ☐ lined up in same direction as the vein.

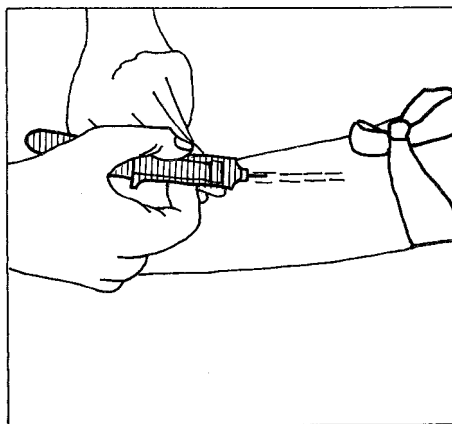
3.6 With your other hand, tightly hold down skin just below the place where you will insert needle.

3.7 Take a deep breath. As you let it out:

- Try to relax.

- Tell patient, "You are going to feel a stick."

3.8 Insert needle.



Insert needle.

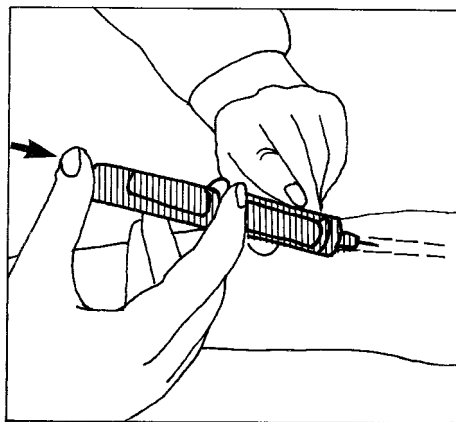
- Try to insert needle into large vein with one smooth movement.
 - ☐ as you enter the vein you may feel a slight "pop" or "give."

4. Collect Blood

Watch the needle. Do NOT move needle once it is where you want it.

4.1 If Using Vacutainer® Type

[1] After the bevel tip of needle is under skin, push blood collection tube all the way into plastic holder.



- Watch the blood collection tube. It will begin to fill with blood if you are into the vein.

[2] If you do NOT get into the vein:

- Feel for vein with fingertip of your other hand.
- Advance needle in the direction of the vein.
- It may help to lower the needle a little bit closer to skin level.
- You may need to pull the needle back some and try again. Do NOT pull bevel tip of needle out of skin, or air will enter tube and you will need to start over.
- If you are sure you can NOT get into the vein:
 - ☐ remove tourniquet.
 - ☐ remove blood collection tube.
 - ☐ remove needle.
 - ☐ try once to draw blood from the other arm.

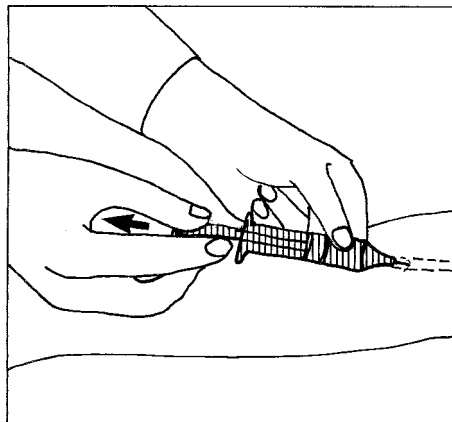
[3] Once you see blood flow:

- Do NOT move needle any more.
- Allow blood to fill tube.
- If you need more than one tube of blood:
 - ☐ hold plastic cover to prevent needle from moving.
 - ☐ change tubes as you have been taught.

4.2 If Using Syringe

[1] After the bevel tip of needle is under skin, pull back on plunger a little bit.

- Watch the syringe. It will begin to fill with blood when you are into the vein.



[2] If you do NOT get into the vein:

- Feel for vein with fingertip of your other hand.

- Advance needle in the direction of the vein.
- It may help to lower the needle a little bit closer to skin level.
- You may need to pull the needle back some and try again. Do NOT pull bevel tip of needle out of skin, or air will enter syringe.
- If you are sure you can NOT get into the vein:
 - ☐ remove tourniquet.
 - ☐ remove the needle.
 - ☐ try once to draw blood from the other arm.

[3] Once you see blood flow:

- Do NOT move needle any more.
- Continue to pull back on plunger until you have the amount of blood you need (7 cc. per tube).

5. Remove Tourniquet and Needle

5.1 Remove tourniquet.

5.2 Remove needle:

- Put 2x2 gauze over spot where needle enters the skin.
- Pull out the needle.
 - ☐ keep needle close to skin surface to prevent damage to the vein.
 - ☐ pull straight out, not sideways.
 - ☐ do this quickly and smoothly.
- As soon as needle is out, put pressure on gauze covering hole in skin.
 - ☐ do this for 1-2 minutes.
 - ☐ it may help to raise arm higher than level of heart.
- Next, tape gauze in place, or put on a Bandaid®.

5.3 If using syringe, stick needle through rubber stopper of blood collection tube, and let vacuum pull blood slowly into tube.

5.4 If needed, gently mix blood in tubes.

- If red top tube, do NOT mix.

5.5 Dispose of needle and syringe.

6. Send to Hospital Lab

6.1 Label tubes of blood with patient's name.

6.2 Fill out lab slips. Include:

- Patient's name, date of birth, and

hospital number (if known).

- Village.
- Date and time blood was drawn.
- Name of blood test requested.

6.3 If needed, separate the serum from blood:

- If CBC (purple top tube), you do not separate.
- For most blood tests (red top tubes), you should separate. Ask your referral doctor if you are not sure.
- To separate serum, do the following:
 - ☐ let tube sit upright for 4-6 hours (in refrigerator, if possible) or use centrifuge, if available.
 - ☐ draw off serum with needle and syringe or with pipette.
 - only draw off clear, straw-colored fluid (serum).
 - do NOT disturb clot.
 - ☐ put serum into new blood collection tube, labeled with patient's name.

6.4 Prepare tubes for mailing:

- Protect tubes well as you pack them.
- For specific instructions, check with your referral hospital lab.
- If transport is delayed, store in refrigerator.

6.5 Send to your referral hospital lab.

DRAWING BLOOD FROM A FINGERSTICK OR HEELSTICK

DRAWING BLOOD FROM A FINGERSTICK OR HEELSTICK Equipment/supplies needed:

ALCOHOL or POVIDONE-IODINE (Betadine®) wipes
2x2's (gauze sponges)
Lancet or Autolet®
Band-aids®

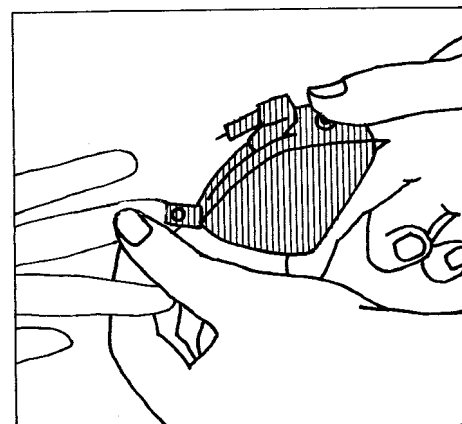
1. Get Set Up

1.1 Explain to patient what you will do.

1.2 Wash your hands. If there is no clean water available, wipe your hands with ALCOHOL or POVIDONE-IODINE (Betadine®).

1.3 Get equipment ready:

- Check to see that you have all equipment listed above.
- Lay it out so that it is handy to use.
- If using lancet, open packet; do not touch sterile sharp end.
- If using Autolet®, set it up following directions that come with it.

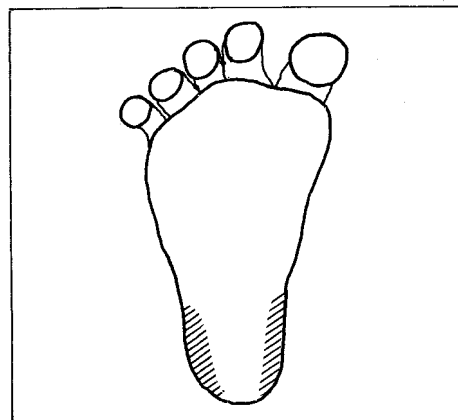


Using Autolet®

2. Get Skin Ready

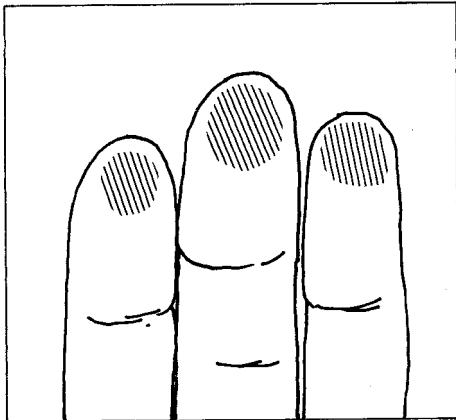
2.1 Choose place to stick skin.

- If under 2 years, use side of heel.



Areas for heelstick.

- If over 2 years, use tip of pointer, middle or ring finger.

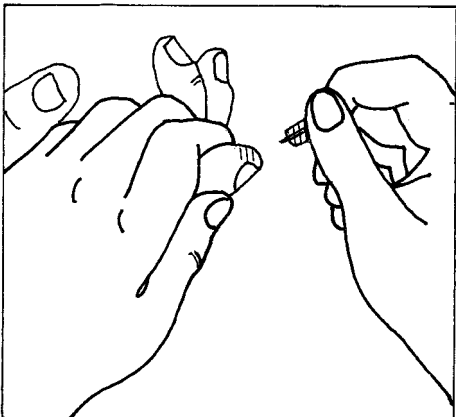


Areas for fingerstick.

2.2 Clean skin well with ALCOHOL or POVIDONE-IODINE (Betadine®) and let dry.

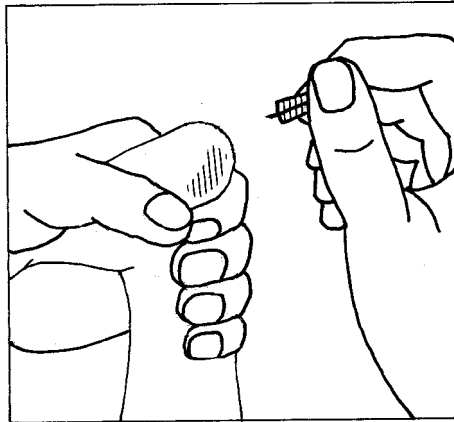
3. Hold Finger or Heel Firmly

3.1 If fingerstick, hold patient's fingertip firmly between your thumb and pointer finger.



Hold fingertip firmly.

3.2 If heelstick, circle heel with thumb and pointer finger. Gently squeeze with your hand.



Circle heel with thumb and pointer finger.

4. Collect Blood

4.1 If using lancet:

- Hold it firmly.
- Quickly stick it through skin and remove.

4.2 If using Autolet®:

- Insert finger firmly under finger plate.
- Press button to stick finger.

4.3 Collect blood:

- Wipe off first drop of blood with sterile 2X2.
- Let blood drip naturally.
 - ☐ if needed, hold finger or heel lower than level of heart.
- If blood does not flow out of puncture right away, wait a minute and then rub hand or foot.
 - ☐ do NOT squeeze finger or heel too hard or it may give a wrong lab test result.
 - ☐ pause between gentle squeezes of finger or heel. This may help blood to flow.
- If you do NOT get enough blood, you may have to stick another spot.

5. Apply Pressure

5.1 After you have enough blood, apply pressure over puncture with sterile 2X2.

- Do this for 2-3 minutes or until bleeding stops.

5.2 If needed, apply Bandaid®.

- Do not put Bandaid® on fingertip of small child. It may come off in his mouth, and he may choke on it.

CHECKING HEMOGLOBIN

This manual may tell you to check patient's hemoglobin. If you can also do a hematocrit test, follow guidelines in your region regarding which test you should do.

Read and follow the directions that come with your equipment. The following is a summary of the steps involved when using a hemoglobinometer.

CHECKING HEMOGLOBIN

Equipment/supplies needed:

ALCOHOL or POVIDONE-IODINE (Betadine®) wipes
2x2's (gauze sponges)
Lancet or Autolet®
Hemoglobinometer
Hemolysis applicator stick
Band aids®

1. Get Set Up

1.1 Explain to patient what you will do.

1.2 Wash your hands. If there is no clean water available, wipe your hands with ALCOHOL or POVIDONE-IODINE (Betadine®).

1.3 Get equipment ready:

- Check to see that you have all equipment listed above.
- Lay it out so that it is handy to use.
- Put glass slide and cover glass into chamber clip (see drawing under 4.2).

2. Check Hemoglobinometer

2.1 If needed, insert batteries and bulb.

- To separate 2 sides of hemoglobinometer, place a coin

into slit under eyepiece and twist.

- Unscrew old bulb and screw in new one.
- Replace batteries so negative (bottom) end of each battery points toward the light bulb in the middle.

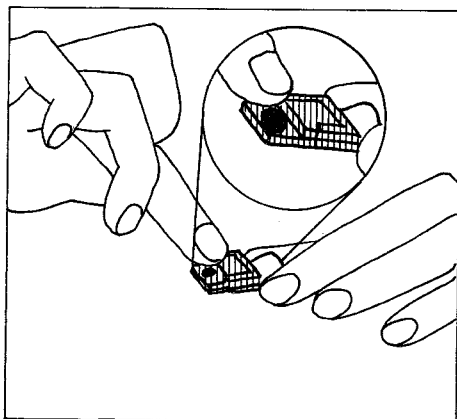
2.2 Check to see that bulb is working OK:

- Move lever away from eye until it is just below arrow.
- Press the light button on bottom.
- As you look through eyepiece, compare two sides of green.
 - ☐ they should be same shade of green.
 - ☐ if they are not, use a coin to twist light button until both sides are same shade of green.

3. Draw Blood By Fingerstick or Heelstick (p.52)

4. Perform Hemoglobin Test

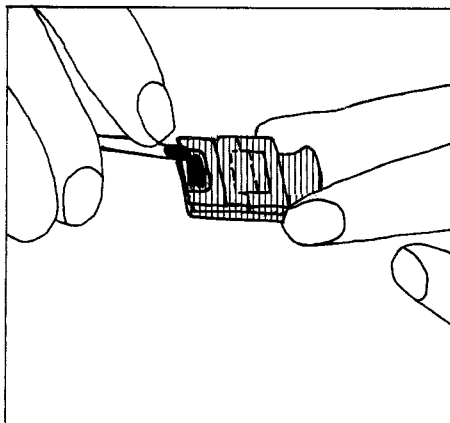
4.1 Let drop of blood fall onto open glass chamber as shown in next drawing.



- Blood must cover entire chamber area.
- Blood should not have bubbles.

4.2 Stir blood with small end of hemolysis applicator stick.

- Stir about 30 to 45 seconds or until blood turns clear red.

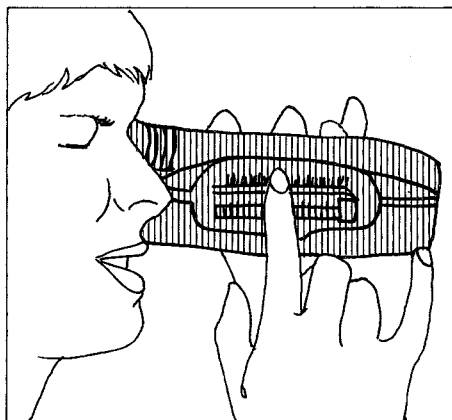


4.3 Carefully slide chamber with blood under cover glass.

4.4 Place glass chamber (held by clip) into left side of hemoglobinometer.

4.5 Look into eyepiece and press button on bottom of meter to turn light on.

4.6 Move slide on right side of hemoglobinometer until both sides are same shade of green.



4.7 Read hemoglobin number just above white mark on the lever.

4.8 Recheck reading once more.

4.9 Remove chamber clip.

- Wash and dry glass chamber so it will be ready to use again.

5. Normal

NORMAL HEMOGLOBIN AND HEMATOCRIT

Age	Hemoglobin at or above	Hematocrit at or above
0-2 wks.	13	40
3 mo.	9.5	29
6 mo. thru 5 yrs.	11	33
6-9 yrs.	11.5	35
10-14 yrs.	12	36
Adult female	12	36
Adult male	13	39

- From age 2 wks. to 3 mo., the normal values decrease slowly.
- From age 3-6 mo., the normal values increase slowly.

6. Abnormal

6.1 Low hemoglobin or hematocrit:

- See anemia, p.25.

DOING OTHER BLOOD TESTS

Blood sugar: see p.58.

Hematocrit: follow guidelines in your region.

- This manual may tell you to check patient's hemoglobin. If you can also do a hematocrit test, follow guidelines in your region regarding which test you should do.
- Read and follow the directions that come with your equipment.
- Normal hematocrit values are listed above, along with normal hemoglobin values.

DIABETES

DIABETES: GENERAL INFORMATION

What is Diabetes?

Diabetes (Diabetes mellitus) is a chronic disease. It makes the body's cells unable to use sugar (glucose) as they should. Sugar builds up in the blood. When blood sugar level gets very high, patient gets symptoms of diabetes.

Diabetes is usually caused by problems with insulin, a hormone made by the pancreas, which helps the body to use sugar.

There are two types of diabetes:

- Type I diabetes is unusual in Alaskan Natives. It usually starts when a person is a child or teenager. This patient does NOT make enough insulin, and needs insulin shots to stay alive.
- Type II diabetes is the most common type. It may be increasing in Alaskan Natives. It usually starts in an adult, especially someone who is overweight or has a close relative with diabetes. This patient usually makes insulin, but his body does not use it correctly. The main treatment is to follow diet guidelines. The patient usually does NOT need insulin shots to stay alive, but he may be given insulin or oral diabetes medicine to help keep his blood sugar down.

Early Symptoms of Diabetes

Most early symptoms of diabetes are due to high blood sugar. Symptoms include the following:

- Urinating more than normal (getting up at night to go).
- Feeling very thirsty, dry mouth.
- Loss of appetite, nausea, vomiting.

- Blurry vision that comes and goes.
- Weight loss.
- Recurrent vaginal itching or yeast infections.
- Other infections that don't clear up (skin, gums, urine).

Long-Term Damage from Diabetes

A patient who has diabetes may develop serious damage to many body systems, including the following:

- Eye damage, blindness.
- Angina, heart attack, stroke.
- Poor circulation, especially in the legs.
- Kidney failure.
- Nerve damage leading to numbness, pain, weakness, and injuries to hands and feet.
- Sores, gangrene, and often amputation of feet and legs.

Diabetes: Prevention

To prevent diabetes from happening, the following general things are recommended:

- Exercise regularly:
 - ☐ recommended, at least 3 times a week, is 20 minutes of walking or other exercise without getting short of breath or getting chest pain.
- Stay at the right weight.
- Follow other basic guidelines for a healthy diet (p.443).

Blood sugar screening for diabetes is recommended every two years for the following high risk adult patients:

- Close relatives of patient with diabetes (parents, sisters, brothers, sons, and daughters).
- Patient who has past history of:
 - ☐ glucose (sugar) in the urine.
 - ☐ high blood sugar.
 - ☐ diabetes during pregnancy.
- Overweight patient, if recommended by your referral doctor.

To prevent problems in a patient with diabetes, the following things are recommended:

- Long-term damage may be postponed (put off) if patient keeps

blood sugar and blood pressure as close to normal as possible and follows other patient education guidelines (p.57).

- *When the diabetic patient is sick:*
 - ☐ as soon as possible, you should check his blood sugar. If you can NOT check blood sugar, consider the assessments of low or very high blood sugar (p.58).
 - ☐ get history and examine as you would other patients.
 - ☐ report to your referral doctor, unless illness is very mild and patient is OK.
- *If pregnant,*
 - ☐ she may have serious problems in pregnancy, including: miscarriage, stillborn baby, very large baby, and birth defects.
 - ☐ it is very important for her to keep blood sugar as close to normal as possible, yet avoid very low blood sugar if on insulin.
 - ☐ report to your referral doctor. Patient will need special care and close follow-up.

DIABETES: LONG-TERM CARE

1. Get Information from the Doctor

You need to know the doctor's assessment and plan, including:

1.1 Medicine: Is patient supposed to take any medicine? If so, for each medicine, find out the following:

- Name.
- Dose.
 - ☐ if on more than one kind of insulin, find out dose for each.
- How often patient should take it.
- Warnings and side effects patient should look for.
- Possible problems when taking other medicine at the same time (drug interactions).

1.2 Are there any special problems or symptoms to watch for in this patient?

1.3 Is there other special patient education other than what is listed in this section?

- Diet? Should patient lose weight? If so:
 - ☐ what should patient weigh?
 - ☐ has the dietitian given a weight loss diet?
- Exercise?
- Sugar checks?
 - ☐ how often should patient check his own blood or urine?

1.4 Does patient need any special appointments or tests?

- Most diabetics should have a check up at the hospital each year that may include the following:
 - ☐ a complete eye exam.
 - ☐ a complete urine check.
 - ☐ blood tests to check kidneys.
 - ☐ an EKG.
- If so, how will these be arranged?

2. Get History From Patient

2.1 Ask patient if he is checking his blood or urine at home. If he is, for each test he does, find out:

- When does he do the test and how does he do it?
- What are the results?
 - ☐ write down the results in patient's chart.

2.2 *If on medicine:*

- Does patient take medicine as directed?
- Are there side effects or problems from the medicine? *If on insulin or oral diabetes medicine:*
 - ☐ ask if patient ever gets these symptoms of low blood sugar:
 - feeling shaky, jittery, nervous (anxious).
 - sweating a lot.
 - fast heartbeat.
 - feeling hungry.
 - ☐ if patient gets symptoms of low blood sugar, find out:
 - what does patient think causes the problem (for example, skipping a meal)?
 - how often does it happen?
 - when does it happen (time of day)?
 - what makes it better?
 - ☐ if on insulin, ask about skin

problems where he injects, such as infections or sunken in areas.

2.3 Does patient have any other problems, such as:

- Occasional symptoms of high blood sugar:
 - ☐ urinating more than normal (getting up at night to go).
 - ☐ feeling very thirsty, dry mouth.
- Sudden, severe change in vision?
- Problems in mouth with gum swelling or soreness?
- Chest pain, especially when exercising?
- Symptoms of urinary tract infections, such as pain or burning when urinating?
- Foot problems such as:
 - ☐ a sore or injury that does not heal?
 - ☐ change in the skin or toenails?
 - ☐ numbness (poor sensation, poor feeling)?
- Numbness, tingling, weakness, or pain in of any part of the body?
- *If a woman*, symptoms of vaginal yeast infection, such as:
 - ☐ itching/burning skin in vagina area?
 - ☐ discharge from vagina?

3. Exam

Check for changes from patient's usual exam:

3.1 General appearance.

3.2 Vital signs: P, BP.

3.3 Weight.

3.4 If patient complains of change in vision, do Snellen test (p.375).

3.5 Mouth:

- Check gums for inflammation (tenderness, redness, swelling).

3.6 Feet:

- Appearance.
 - ☐ size and shape.
 - ☐ skin. *If skin problem*, including callous or corn, look closely and feel; describe correctly (p.411).
- Press thumb over shin bone to check for pitting edema.
- Pulses: Check strength of each pulse, and compare one side of body to the other:
 - ☐ top of foot (DP).

- ☐ behind medial ankle bone (PT).
- If any pulse in foot is weak, check for poor blood supply (p.398).
- Feeling with light touch.
 - ☐ if abnormal, gently check for feeling with safety pin. Do NOT make a hole in the skin.

3.7 Lab tests:

- Blood sugar (glucose).
- Urine dipstick for:
 - ☐ protein.
 - ☐ glucose (sugar).
 - ☐ ketones.

4. Assessment

4.1 Your assessment should include:

Diabetes: long-term care.

4.2 Decide if blood sugar (glucose) is under good control (180 or less on Chemstrip®, up to 8 hrs. after eating). Include this in your assessment.

4.3 Also include in your assessment:

- "Doing well," if no problems.
- Problems with medicine:
 - ☐ side effects.
 - ☐ NOT taking as directed.
- Other problems you have found.

5. Plan

5.1 Patient education is important in order to try to control the disease and prevent long-term damage.

- Get patient education handouts from your referral hospital or other sources.
- Give information in chart 5.1.

5.2 If on medicine your plan should include the following:

- Discuss importance of taking medicine.
 - ☐ patient should let you know when he is running low, in time to get a refill.
- Remind patient about warnings and possible side effects.
- If side effects, treat as recommended by your referral doctor.
- Give patient a refill, if needed.

5.3 Recheck: Make appointment for next visit. If doing well, see patient every 1-3 months, as recommended by your referral doctor.

Chart 5.1

Patient Education DIABETES

1. Diet guidelines:

- The doctor may prescribe a diabetic diet. In general you should:
 - ☐ eat a well-balanced diet with foods from the four food groups every day (p.444).
 - ☐ avoid sugar or foods high in sugar (p.446).
 - ☐ avoid fat. Follow guidelines for a low fat diet (p.445).
 - ☐ eat more foods with fiber (p.446).
- *If you are overweight:*
 - ☐ find out what your weight *should* be.
 - ☐ follow diet instructions to get to, and stay at, the right weight (p.446).
 - ☐ **weight control is the most important part of treatment for adult, Type II, diabetics.** Even if you do NOT get down to what you should weigh, your blood sugar should improve as you begin to lose weight.

2. Exercise regularly:

- Walk or get other exercise for 20 minutes, at least 3 times a week.
 - ☐ do NOT get short of breath and do NOT get chest pain.
- If you are age 40 or more, consult your doctor before starting.

3. Do sugar checks regularly:

- You can control your diabetes the best by checking your finger-stick blood sugar often, at times recommended by your doctor.
- If your blood sugar gets high, you may also need to check your urine for ketones.

4. NO SMOKING! Smoking increases damage to blood vessels, and makes heart attacks, strokes, and foot amputations more likely.

5. Take good care of your feet. They can be hurt easily.

- Keep the skin clean and healthy:
 - ☐ wash each day with warm water and a mild soap, such as Dove®. Dry well, but be gentle.
 - ☐ use skin cream recommended by the doctor. One with lanolin will help to keep skin soft.
- Protect your feet:
 - ☐ do NOT walk around barefoot.
 - ☐ wear shoes that fit well.
 - ☐ before you put on your shoes, "dump them out," to be sure there are no rocks or other things inside.
 - ☐ put padding between toes. Lamb's wool is good.
 - ☐ avoid injury from heat or cold. Do NOT use hot water bottles or heating pads.
 - ☐ cut toenails carefully, straight across. Do NOT use a knife.
 - ☐ do NOT cut callouses!
- Wear soft, dry socks without tight elastic.
- If your feet sweat a lot, use foot powder to help keep them dry.
- *If you get a cut, blister, or sore on your foot:*
 - ☐ wash it with soapy water as soon as possible.
 - ☐ do NOT put on any medicine, such as iodine.
 - ☐ cover it with clean gauze.
 - ☐ return to clinic to be checked.

6. If you are a woman of child-bearing age:

- It is important for you to keep blood sugar levels near normal *before* becoming pregnant, as well as during pregnancy.
 - ☐ this makes birth defects and other serious problems less likely to happen.
- If you think you are pregnant, tell your CHA/P as soon as possible. Your CHA/P will report to the doctor. You will need special care.

7. Understand and teach your family about the two common diabetes emergencies:

- Low blood sugar. *If you are on insulin or oral diabetes medicines*, you may get symptoms of low blood sugar, especially if you take the usual dose of insulin and then eat *less* than normal, or exercise *more* than normal. Symptoms usually start quickly.
 - ☐ warning symptoms of low blood sugar:
 - feeling shaky, jittery, nervous (anxious).
 - sweating a lot.
 - fast heartbeat.
 - feeling hungry.
 - ☐ *if you get symptoms of low blood sugar*, immediately you should eat something sweet, such as fruit juice, honey, or candy.
- High blood sugar. Symptoms usually start slowly, over a few hours to 2 days.
 - ☐ warning symptoms of high blood sugar:
 - urinating more than normal (getting up at night to go).
 - feeling very thirsty, dry mouth.
 - loss of appetite, nausea, vomiting.
 - feeling sick, weak, tired.
 - ☐ *if you get symptoms of high blood sugar*, do the following:
 - take your usual medicine dose. Do NOT skip it.
 - keep eating your meals.
 - every two hours, check your blood sugar and check your urine for ketones.
 - report to your CHA/P.

8. If you have problems, see your CHA/P sooner than your regular appointment.

5.4 Report to your referral doctor:

- If possible, send a copy of your SOAP note to the doctor. Contact him sooner if you found any problems, including:
 - ☐ if patient is ill. Even if an illness is minor, it may be serious in this patient.
 - ☐ if you found a black spot on foot. Report this as soon as possible. It may be a sign of gangrene.
- While you are waiting to report, if patient has infection (skin or other infection), begin treatment as in this manual.
- Ask doctor about special immunizations that are needed for this patient (flu, pneumococcal).

5.5 Other plan should include the following:

- Order more medicines, if needed.
 - ☐ fill out the pharmacy refill request, if needed.
- Check to see that:
 - ☐ patient's name is on list of patients to be seen on a field trip by doctor, PHN.
 - ☐ this chronic problem and patient's medicines are written on patient's problem list.
- After patient is gone, review the assessment and emergency plans for low blood sugar and very high blood sugar, p.58.
- Be sure to screen patient's close adult relatives for diabetes:
 - ☐ every two years, do blood sugar test on patient's parents, sisters, brothers, sons and daughters.

BLOOD SUGAR (Glucose)

CHECKING BLOOD SUGAR

Lab Tests

There are a number of tests available (Chemstrip®, Dextrostix®, others).

- Plan to do a fingerstick or heelstick (p.52).
 - ☐ it is important to wipe the skin *dry* after using ALCOHOL wipe.
- Read directions carefully for the test that you use. Directions are different for different tests.
- If you are checking a newborn:
 - ☐ you should use a test that works best when checking very low blood sugar. Dextrostix® is recommended at this time.
 - ☐ for test results and treatment, use newborn section (p.186).

Test Results For Children and Adults

Normal:

- After eating: 80-140 range (80-120 on Chemstrip® or 90-130 on Dextrostix®).
- After 8-10 hours without food (fasting): 80-115 range (80-120 on Chemstrip® or 90-130 on Dextrostix®).

Abnormal: less or more than the normal range. Your plan should include:

- If low blood sugar (less than 80 on Chemstrip® or less than 90 on Dextrostix®).
 - ☐ if patient has history or exam findings of low blood sugar (Chart 1), use the emergency plan for low blood sugar, which follows.
- If high blood sugar on normal patient:
 - ☐ ask when and what patient ate last.
 - ☐ assessment is "possible diabetes."

- If very high blood sugar, more than 300 (more than 400 on Chemstrip® or more than 250 on Dextrostix®).
 - ☐ if patient has mental changes, use the emergency plan for very high blood sugar, which follows.
- Report to your referral doctor.

If You Can NOT Check Blood Sugar

Use Chart 1 to help you make the assessment of low or high blood sugar. If needed, use the appropriate emergency plan for low or very high blood sugar, both which follow in this section.

Chart 1

ABNORMAL BLOOD SUGAR: ASSESSMENT AND TYPICAL FINDINGS

LOW BLOOD SUGAR

History:

- Often took usual dose of insulin and then ate *less* than normal or exercised *more* than normal.
- Symptoms usually start quickly:
 - ☐ feeling shaky, jittery, nervous.
 - ☐ sweating a lot.
 - ☐ fast heartbeat.
 - ☐ feeling hungry.

Exam:

- General appearance: May look nervous, sweaty.
- Fast pulse.
- Skin:
 - ☐ cool, sweaty.
 - ☐ no dehydration. Springs back into shape after pinching.
- Mental changes may include: irritable (angry), hard to think straight; may become confused, very sleepy, unconscious.
- Blood sugar: low (less than 80 on Chemstrip® or less than 90 on Dextrostix®).

VERY HIGH BLOOD SUGAR

History:

- Often is ill, has infection, or missed insulin or oral diabetes medicine.
- Symptoms usually start slowly, over a few hours to 2 days:

- ☐ urinating more than normal (getting up at night to go).
- ☐ feeling very thirsty, dry mouth.
- ☐ loss of appetite, nausea, vomiting.
- ☐ feeling sick, weak, tired.
- ☐ blurry vision.

Exam:

- General appearance: Breathing deep and fast; breath may smell like nail polish remover (acetone).
- Signs of dehydration (p.71), such as weight loss, dry mouth, and skin that stays "tented up" a while when pinched.
- Mental changes: may become confused, very sleepy, unconscious
- Blood sugar: very high (more than 400 on Chemstrip® or more than 250 on Dextrostix®).
- Urine: positive for sugar, maybe ketones.

LOW BLOOD SUGAR: EMERGENCY PLAN

Begin here for patient with low blood sugar, OTHER than newborn (p.186).

Evaluate and treat as any emergency patient (p.1). In addition, do the following:

1. Give sugar as in Chart 2.

2. Recheck blood sugar. If it is still low, continue to give sugar.

3. Report to your referral doctor.

If you can NOT reach a doctor:

- *If overdose* of insulin or oral diabetes medicines:
 - ☐ arrange for transport to hospital.
 - ☐ continue to give sugar and recheck blood sugar, even if patient seems better.
- Treat other emergencies, as in this manual. For example:
 - ☐ unconscious patient, p.275.
 - ☐ acute drug abuse problem (alcohol or other drugs), p.261.

Chart 2

EMERGENCY CARE: GIVING SUGAR TO CHILDREN AND ADULTS

Give sugar as soon as possible.

If patient is awake and able to swallow without choking, give him any of the following by mouth:

- Sweet liquids such as fruit juice and soda pop.
- Honey.
- Candy.
- Sugar.

If patient can NOT swallow without choking (this includes very sleepy or unconscious patient), do the following:

1. Lay patient on his side to prevent choking on vomit.
2. This is a serious emergency. Give sugar the quickest way or ways that you can. For example, you may want to put glucose in patient's cheek and then set up an I.V. Give patient one or more of the following:

- Give glucose into patient's cheek pouch (area between cheek and teeth):
 - ☐ be sure to keep patient on his side, to help prevent choking.
 - ☐ Give **GLUCOSE PASTE** (Instagluco[®] or other commercially made product; may be with your emergency drug supplies).
 - ☐ or, give **50% DEXTROSE** I.V. fluid.
 - ☐ or, give honey.
- Give I.M. or subcutaneous shot of **GLUCAGON** (1 unit or 1 mg./ml; diabetic patient may have this in his home, for emergency use):
 - ☐ if an alcoholic, GLUCAGON may NOT work on his liver. Try something else first.
 - ☐ follow instructions on how to mix the medicine.
 - ☐ dose: 1 unit (1 mg., 1 cc.).
 - ☐ if needed, repeat the shot every 5 minutes for a total of three shots.

- Give I.V. DEXTROSE:

- ☐ start an I.V. (p.427). Use an I.V. fluid with DEXTROSE, such as

- LACTATED RINGER'S WITH 5% DEXTROSE.
- 5% DEXTROSE & 0.9% SODIUM CHLORIDE.

- ☐ give I.V. injection of **50% DEXTROSE**:

- dose:
 - if less than 110 lbs., give 0.5 cc. per pound.
 - if 110 lbs. or more (approximately 14 years or more), give 50 cc. (1 ampule).

- repeat the injection once, in a few minutes, if patient does NOT wake up.

- ☐ if you do NOT have 50% DEXTROSE, give a lot of the I.V. fluid:

- as you begin, run in the same amount as for the "shock rate" (p.434).
- next, run I.V. at "maintenance rate" (p.434).

- ☐ remove I.V. when patient is awake and exam and blood sugar are normal.

- If needed, your referral doctor may suggest also giving sweet liquid through a stomach tube (p.85).

3. If patient wakes up enough to swallow without choking, give him sweet liquids by mouth, as above. This is important, as other methods may NOT give patient enough sugar.

VERY HIGH BLOOD SUGAR: EMERGENCY PLAN

Begin here if patient has very high blood sugar and ALSO has mental changes: confused, very sleepy, or unconscious.

Evaluate and treat as any emergency patient (p.1). In addition, do the following:

1. Report to your referral doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.
- Have someone arrange for transport to hospital.

2. If patient missed insulin dose,

give the dose that he should have taken, by subcutaneous shot.

3. Special care should include giving fluids to treat for dehydration:

- If patient is awake and can swallow without choking, give a lot of liquid that has some salt in it, such as:
 - ☐ tomato juice.
 - ☐ weak broth.
 - ☐ same suggested liquids for vomiting or diarrhea in a baby (p.74).
- *If patient can NOT swallow without choking,*
 - ☐ start an I.V. (p.427). Use either LACTATED RINGER'S or 0.9% SODIUM CHLORIDE.
 - ☐ as you begin, run in the same amount as for the "shock rate" (p.434).
 - ☐ next, run I.V. at "maintenance rate" (p.434).

4. Transport patient to hospital as soon as possible. While you are waiting to transport, your plan should include the following:

- Stay nearby.
 - Recheck vital signs every 30 minutes: P, R, BP.
 - Doctor may suggest running the I.V. at a faster rate, to treat for dehydration.
-

ABDOMINAL INJURIES

A blow (hit) to the abdomen can be serious, even if you can not see any damage. Be complete, and work quickly.

1. Begin Emergency Care

- 1.1** First, check ABC's: Airway, Breathing, Circulation.
- 1.2** Position: Keep patient lying down, to prevent fainting or shock.
- 1.3** Control severe bleeding.
- 1.4** Check vital signs: P, R, BP.
 - If shock (weak, fast pulse; low BP), now go to p.7.
 - If possible, check P & BP with patient lying down, then sitting up.
 - ☐ treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.
 - If serious injury, plan to have helper recheck vital signs at least every 15-30 minutes, until they have been normal for two hours.

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** Find out about the accident that caused the injury:
 - Exactly what happened?
 - ☐ what caused the injury?
 - did he fall?
 - was he kicked or stabbed?
 - ☐ was it related to alcohol or other drugs?
 - Where on the abdomen was patient hit?
 - Did patient faint (pass out)?
 - Does patient have other injuries?

- If *gunshot wound*, find out about the gun:
 - ☐ what size (caliber) was used and what kind of bullet (military, hunting, target)?
 - ☐ how close was the gun to the patient when it fired?
- If *knife wound*, find out what size and type of knife was used.
- [2]** How much blood does patient think he has lost?
- [3]** Does patient have any other complaints, such as:
 - Nausea?
 - Symptoms of shock: feeling weak, tired?
 - Vomiting blood?
 - Shortness of breath?
 - Pain in the abdomen or chest?
 - Shoulder pain (may mean damage inside the abdomen)?
 - Bloody urine?
- [4]** When did patient eat last?

2.2 Past Health History

- [1]** Illnesses?
- [2]** What medicines is patient taking now?
- [3]** Allergies?
- [4]** When was last TETANUS shot?

3. Exam

- 3.1** Repeat vital signs: P, R, BP.
- 3.2 Do a body survey (p.9).**
 - Check the chest well.
- 3.3** Abdomen:
 - Appearance. Look at abdomen without clothing.
 - ☐ note all injuries, even minor bruises and scrapes (may show where there is damage inside).
 - Bowel sounds.
 - ☐ If you do not hear bowel sounds, *and patient's condition permits*, listen for 5 minutes by your watch before deciding that bowel sounds are absent.
 - Feel for tenderness (unless patient has deep, large laceration or other serious abdominal wound):
 - ☐ have patient point to the area that hurts.
 - ☐ feel lightly, on surface.
 - ☐ next, feel deeper in abdomen.

- ☐ feel the painful area last.
- ☐ watch patient's face for a sign of pain.
- ☐ note tenderness or tight muscles that patient can NOT relax.
- Examine a wound closely:
 - ☐ location.
 - ☐ size and shape.
 - ☐ if it looks very deep, your referral doctor may suggest that you use a sterile probe (hemostat, Q-tip®) and gently probe into the laceration.
 - ☐ is it discolored or swollen?
 - ☐ what type of wound is it (straight cut, puncture wound, etc.)?
 - ☐ is it dirty?
- 3.4** Examine the object that caused a wound, if possible:
 - How long is the object? If it is a knife, how long is the blade?
 - How far up the object does the blood go?
 - Could the object have caused a serious internal injury and only a small skin wound? Example: a very thin long blade.
- 3.5** Lab test:
 - Hemoglobin.
 - ☐ if bleeding, hemoglobin level may be normal at first. It is important to check it NOW, to compare with level after some time has passed.
 - Urine: Can you see blood? If not, do a dipstick test for blood.

4. Assessment

- 4.1** Your assessment should be: **Abdominal injury.**
- 4.2** Make a more specific assessment. First, decide if this is a serious abdominal injury. Use chart 4.2.
- 4.3** Include in your assessment that the problem is one of the following:
 - **Serious abdominal injury:**
 - ☐ **intestines or soft tissue sticking out of a laceration** (Plan 5.1).
 - ☐ **something sticking into abdomen (foreign body)** (Plan 5.2).
 - ☐ **other serious abdominal injury** (Plan 5.3).

- **Minor abdominal injury** (if patient has none of the findings of a serious abdominal injury; Plan 5.4).

4.4 If you are not sure of the assessment, treat patient for a possible serious abdominal injury (Plan 5.3).

Chart 4.2

SERIOUS ABDOMINAL INJURY ASSESSMENT: SOME TYPICAL FINDINGS

If patient with an abdominal injury has *any of the things listed below*, this is a serious injury.

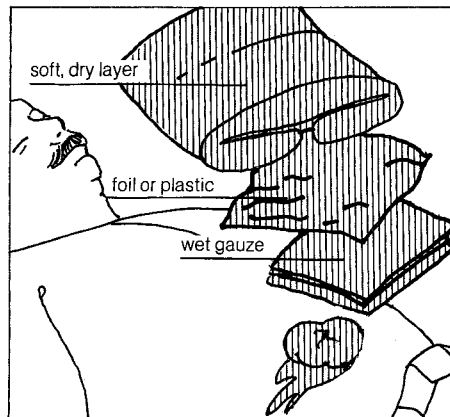
History:

- Any stab wound, gunshot wound, foreign body stuck into abdomen, or other accident likely to cause a serious injury.
- Severe abdominal pain.
- Nausea and vomiting, especially vomiting blood.

Exam:

- Shock (weak, fast pulse; low BP).
- Very deep wound.
- Intestines or soft tissue sticking out of a laceration.
- No bowel sounds heard.
- Abdominal tenderness.
- Abdominal muscles tighten and patient can NOT relax them.
- Lab:
 - ☐ low hemoglobin.
 - ☐ blood in the urine.
- Other severe injury.

- [2] Apply a special dressing** with three layers, to keep the tissue moist:
- Leave the intestines on the surface. Do NOT try to put them back into the abdomen.
 - Put on sterile gloves.
 - The *first layer* should be sterile gauze, wet with 0.9% SODIUM CHLORIDE (saline).
 - ☐ place it right onto the intestines or soft tissue.
 - The *second layer* should be something clean and waterproof, such as plastic wrap or aluminum foil.
 - The *third layer* should be soft and dry. This protects the organs and keeps them warm.
 - ☐ examples: multi-trauma dressing, towel.
 - Tape the dressing loosely in place.



- [3] Transport** patient to hospital as soon as possible. While you are waiting to transport, go to plan 5.3 ("General Care for Serious Abdominal Injuries"). Follow parts of that plan which apply.

- [2] Warnings** include the following:
- Leave the object in place. Pulling it out may cause more damage and bleeding.
 - Do NOT clean or look into this kind of wound.

[3] Special care includes the following:

- Cut away clothing.
- If there is much chance that the object will be hit or moved, carefully trim object to smaller size.
- Put a bulky dressing around object to keep it from moving and to help control bleeding.
 - ☐ tape the foreign body and dressing in place to prevent movement (as in drawing on p.341).

[4] Transport patient to hospital as soon as possible. While you are waiting to transport, go to plan 5.3, which follows ("General Care for Serious Abdominal Injuries"). Follow parts of that plan which apply.

5.3 Plan: Other Serious Abdominal Injury and General Care for Serious Abdominal Injuries

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.
- If you think patient needs emergency care at the hospital, have someone arrange for transport.

[2] Special care should include the following:

- Reassure patient.
- Keep patient lying down, to treat shock.
- Place pillows under patient's knees, to support legs and to relax abdominal muscles.
- Be prepared. Patient will probably vomit.
- Diet: Nothing by mouth, unless the doctor says clear liquids are OK.
- Wound care:
 - ☐ wash well (p.344), unless you have applied a special wound dressing in one of the above plans.

5. Plan

5.1 Plan: Abdominal Organs Sticking Out of a Laceration

[1] Report NOW to your referral doctor. Begin the following treatment while someone else contacts the doctor.

If you can NOT reach a doctor, have someone arrange for transport to hospital as soon as possible.

5.2 Plan: Something Sticking into Abdomen (foreign body)

[1] Report NOW to your referral doctor. Begin the following treatment while someone else contacts the doctor.

If you can NOT reach a doctor, have someone arrange for transport to hospital as soon as possible.

- ☐ cover wound with a dry, sterile dressing.
- If the skin is broken and patient has NOT had a TETANUS booster shot in the past 10 years:

Give I.M. booster shot of **TETANUS TOXOID and DIPHTHERIA (Td)**

- **Dose: 0.5 cc. I.M.**

[3] If you do NOT transport or if transport is delayed, do the following:

- Recheck vital signs (P, R, BP) at least every 15-30 minutes.
 - ☐ if shock (weak, fast pulse; low BP), treat as on p.7.
 - ☐ if vital signs are normal after 2 hours, recheck them every 4 hours, more often if patient is having problems.
- Patient education: Some patients find that holding a pillow against the abdomen gives support to the muscles and helps the pain.
- *If pain is severe*, patient is NOT in shock, and you can NOT reach a doctor, give an I.M. shot of MEPERIDINE (Demerol®) or MORPHINE (p.417).
- Start an I.V. (p.427) to prevent dehydration. Run it at "maintenance rate" (p.434).

5.4 Plan: Minor Abdominal Injury

[1] Report to your referral doctor unless he has signed for you to treat minor abdominal injuries without contacting him.

- While you are waiting to report, follow this plan.

[2] Patient education should include the following:

- Patient should rest until feeling OK.
- Diet: Clear liquids (p.75) for 6-12 hours. If doing OK, patient should slowly return to his usual diet.
- To ease the pain, tell patient:
 - ☐ place pillows under the knees, to support legs and to relax abdominal muscles.
 - ☐ it helps some patients to hold a pillow against the abdomen, to give support to the muscles.

- If there is a bruised area, it will help to do the following:

- ☐ for the first 1-2 days, apply cold packs (ice wrapped in a towel) for 20 minutes, and repeat as needed.
- ☐ after 1-2 days, apply moist heat (a warm, wet towel) for 20 minutes, about four times a day.

[3] Other plan

- *If patient has a wound*, wash and care for it as on p.342 ("General Wound Care").
- If needed, for pain, give ACETAMINOPHEN (Tylenol®, p.416).

[4] Recheck as follows:

- Recheck patient in one day, sooner if he is getting worse.
- Examine:
 - ☐ vital signs: T, P, R, BP.
 - ☐ breath sounds.
 - ☐ abdomen: bowel sounds; feel for tenderness.
 - ☐ recheck hemoglobin if there is any chance of internal bleeding.
- When the time is right, talk about accident prevention. *If problem is related to alcohol* or other drug abuse:
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

ABDOMINAL PAIN

Begin here if patient's chief complaint is abdominal pain, from cause other than injury (p.61).

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] What is the pain like now?

- Where exactly is the pain?
 - ☐ ask patient to point with one finger to where it hurts.
- What makes it better?
 - ☐ lying down or other position?
 - ☐ eating? Taking antacid medicine?
 - ☐ massaging (rubbing) the area?
- What makes it worse?
 - ☐ eating greasy foods?
 - ☐ walking around?
 - ☐ having sex?
 - ☐ is it worse before meals or at night?

[2] Does patient have other problems of the digestive system:

- Loss of appetite?
- Nausea or vomiting?
 - ☐ if vomiting, what does the vomit look like? If vomit looks like blood or "coffee grounds," now go to p. 80, "Severe Digestive System Bleeding."
- Trouble swallowing (solids, liquids)?
- "Heartburn" or indigestion? *If so:*
 - ☐ do certain foods make this happen, such as fatty or spicy foods?
 - ☐ does patient burp sour, hot liquid into back of mouth? If so, is this worse at night?
 - ☐ does antacid medicine make it better?
- Problems with gas, such as:
 - ☐ burping?
 - ☐ passing gas (farting)?
- Change in bowel movements, such as:
 - ☐ constipation?
 - ☐ diarrhea?
 - ☐ blood in bowel movement?
 - ☐ change in size, shape, or color?
 - ☐ if bowel movement has lots of blood or looks black like tar, now go to p.80, "Severe Digestive System Bleeding."
- When was the last bowel movement? Was it normal? Was it soft or hard?

[3] Recent history:

- Injury to abdomen?
- Eating food that may have been spoiled?
- Drinking water that may have been contaminated?

- Drinking alcohol or taking illegal ("street") drugs? If so:
 - ☐ what?
 - ☐ when?
 - ☐ what amount (how much)?

1.2 Past Health History

[1] Illnesses:

- Problems with:
 - ☐ stomach (ulcer)?
 - ☐ gallbladder?
 - ☐ liver (hepatitis)?
 - ☐ bowels?
 - ☐ rectum, anus?

[2] Operations:

- Removal of appendix or gall bladder?

- Other surgery on abdomen?

[3] Medicines: What medicines is patient taking now, including ASPIRIN or other arthritis medicine?

[4] If a woman, get the following female history:

- Date of first day of last menstrual period (LMP)? Was it normal? If NOT normal:
 - ☐ in what way was it abnormal?
 - ☐ when was her last *normal* menstrual period (LNMP)?
- Does pain seem related to her period?
- Birth control. Ask her: "Are you using any birth control now? Could you be pregnant?"
 - ☐ if pregnant, now go to p.158, "Bleeding from the Vagina, or Severe Abdominal Pain, in a Pregnant Woman."
- History of:
 - ☐ ectopic pregnancy?
 - ☐ infection in fallopian tubes (PID)?

1.3 Other History

[1] Does patient have any other complaints, such as:

- Fever or chills?
- Weight loss? If so, how much in the past 12 months?
- Sore throat?
- Cough?
- History of V.D. (gonorrhea, syphilis, other)?
- Discharge from penis or vagina?
- Urinary problems?

[2] Are other people at home or in village sick with the same problem?

2. Exam

2.1 General appearance:

2.2 Vital signs: T, P, R, BP.

- *If patient looks very sick,* check P & BP with patient lying down, then sitting up. Treat for shock (p.7) if, when sitting up:

- ☐ pulse gets higher by more than 20, or
- ☐ systolic BP (top number) gets lower by more than 10.

2.3 Weight: Any change?

2.4 Ears.

2.5 Mouth and throat.

2.6 Chest:

- Breath sounds.

2.7 Heart:

- Heart rhythm.
- Heart sounds.

2.8 Back:

- Hit gently in each kidney area to check for tenderness (CVA tenderness, p.389).

2.9 Abdomen:

- Appearance, including scars from surgery.
- Bowel sounds.
- If abdomen is swollen (distended), percuss it (p.393).
- Feel for tenderness/lumps. Feel the painful area last:
 - ☐ feel lightly, on surface.
 - ☐ feel deeper in abdomen.
 - ☐ if muscles tighten (guarding), ask patient to try to relax muscles, as you examine.
- *If tenderness,* check for rebound tenderness (p.394):
 - ☐ does percussion hurt (rebound)?
 - ☐ if percussion does NOT hurt much, does it hurt when you push in and then quickly let go (rebound)?
 - ☐ if letting go quickly does NOT hurt much, does it hurt the patient to hop on one foot (may be early sign of serious problem)?
- *If rebound tenderness:*
 - ☐ where exactly does it hurt?
 - ☐ after you examine, plan to treat this patient for "acute abdomen" (Plan 4.1).
- Feel for liver and spleen.

2.10 If low abdominal pain and tenderness, wear examination gloves and also check the following:

- Male Genitals:
 - ☐ feel for hernias.
- Female Genitals.
 - ☐ appearance.
 - ☐ if discharge, examine and take sample for "wet prep," if available (p.115).
 - ☐ if adult:
 - take culture for gonorrhea, if available (p.141);
 - feel inside vagina: lubricate your pointer and middle fingers and insert them; feel for tenderness, swelling; find the cervix and feel it; move the cervix with your two fingers.
- Rectum:
 - ☐ lubricate one finger.
 - ☐ feel inside the rectum for tenderness. Feel in all directions.
 - ☐ lab test: Check stool (bowel movement) that is on your glove for hidden blood (p.84).
- 2.11 Lab tests should include:**
- Urine dipstick for:
 - ☐ infection (leukocytes/white blood cells or nitrite).
 - ☐ protein (albumin).
 - ☐ blood.
 - ☐ ketones.
 - ☐ if dark urine and possible yellow color of skin (jaundice), also check for bilirubin (bile).
- *If patient seems sick or has possible pregnancy,* check hemoglobin. Hemoglobin may be low from internal bleeding.
- *If possible pregnancy,* do pregnancy test. If positive, now go to p.158, "Bleeding from the Vagina, or Severe Abdominal Pain, in a Pregnant Woman."

3. Assessment

3.1 Your assessment should be: Abdominal pain.

3.2 Try to make a more specific assessment. Use chart 3.2.

3.3 Include in your assessment that the abdominal pain is caused by one of the following:

- **Acute abdomen** (Plan 4.1).
- **Ulcer** (Plan 4.2).
- **Possible kidney stone** (Plan 4.3).
- **Other or unknown cause of abdominal pain** (Plan 4.4).

Chart 3.2

Abdominal Pain: Some Assessments and Typical Findings

Assessment	History	Exam
ACUTE ABDOMEN [possible surgical abdomen; there are many possible causes for this serious illness] (Plan 4.1)	Pain started recently: <ul style="list-style-type: none"> • From a few hours to 2-3 days ago. • <i>If recurrent pain</i>, became a lot worse recently. • Is getting worse and worse. May have nausea, vomiting. May have past history of intestinal obstruction.	<i>General appearance:</i> Usually looks sick; lies still; doesn't move around much. <i>Abdomen:</i> <ul style="list-style-type: none"> • Bowel sounds: May be absent. • Muscles tighten and patient can NOT relax them in one place (involuntary guarding). • May have rebound tenderness (percussion hurts; hurts more when you quickly let go; hurts to hop on one foot). Old patient or small child may NOT have many findings on exam.
ULCER [peptic ulcer disease; an open sore in lining of stomach or duodenum] (Plan 4.2)	Usually has recurrent pain: <ul style="list-style-type: none"> • Starts 1-4 hrs. after eating; NOT brought on by exercising. • Burning pain; may be sharp. • In epigastric area (upper abdomen, where ribs meet). • Gets better after taking antacid medicine or eating. May have nausea and vomiting.	<i>Abdomen:</i> Usually tender in epigastric area. Rest of exam may be normal. <i>Lab tests</i> , if ulcer has bled: <ul style="list-style-type: none"> • Hemoglobin may be low. • Bowel movement may be positive for blood.
POSSIBLE KIDNEY STONE [stone passing from kidney through ureter; may pass into bladder and out urethra] (Plan 4.3)	Back or abdominal pain: <ul style="list-style-type: none"> • May be severe. • Often goes to genital area, groin, thigh, or testicle. • Sharp, crampy; may come and go. May have history of blood in urine or passing "gravel." May also have burning when urinating or other symptoms of urinary tract infection. May have nausea and vomiting.	<i>Back:</i> Tenderness in kidney area. <i>Abdomen:</i> Tenderness, but NOT rebound (does NOT hurt more when you quickly let go). <i>Urine dipstick:</i> positive for blood, protein; may be positive for infection (leukocytes/white blood cells or nitrite).

4. Plan**4.1 Plan: Acute Abdomen**

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor:

- Have someone arrange for transport to hospital. Patient may need surgery soon.
- While you are waiting to transport, follow this plan.

[2] Special care should include the following:

- Have patient lie down, in position that feels best.

- Keep patient warm and as comfortable as possible.
- Give nothing by mouth.
- Stay nearby.
- Reassure the patient.
- Recheck vital signs every half hour, more often if patient is getting worse.

[3] Transport patient to hospital as soon as possible.

[4] If transport is delayed, do the following:

- *If patient needs fluid to prevent dehydration:*

- ☐ start an I.V. (p.427). Run it at "maintenance rate."
- ☐ *if you can NOT start an I.V.* and patient is NOT vomiting, give small amounts of clear liquids by mouth (p.75).

- *If pain is severe* and you can NOT reach a doctor, give I.M. shot of MEPERIDINE (Demerol®) or MORPHINE (p.417).
- Consider other more specific assessments that you can treat. Use chart 4.1.

Chart 3.2

Acute Abdominal Pain: Some Assessments and Typical Findings

Assessment	History	Exam
APPENDICITIS [infection of the appendix] (Plan continues at [5])	Pain in right lower quadrant; may have started in belly button (umbilical) area. Loss of appetite. May have nausea, vomiting, constipation.	Low fever. <i>Abdomen:</i> <ul style="list-style-type: none"> • Bowel sounds: normal or less than normal. • Tenderness (involuntary guarding) in right lower quadrant; maybe rebound tenderness. • May have lump (mass) in right lower quadrant.
DIVERTICULITIS [inflammation and maybe rupture of a diverticulum, a small out-pouching of the large intestine] (Plan continues at [6])	Adult. Pain in left lower quadrant. Loss of appetite. Nausea, maybe vomiting. Often history of chronic constipation.	Fever. <i>Abdomen:</i> <ul style="list-style-type: none"> • Bowel sounds: normal or less than normal. • Tenderness (involuntary guarding) in left lower quadrant. • May have lump (mass) in left lower quadrant. Seems like a "left-sided appendicitis."
INFECTION IN FALLOPIAN TUBES [PID, Pelvic Inflammatory Disease] (Plan continues at [7])	Woman; often history of V.D. Pain: <ul style="list-style-type: none"> • Usually on both sides of lower abdomen. • With intercourse. May have: Discharge from vagina; the need to urinate often or rush to bathroom; pain when urinating; abnormal menstrual bleeding; anus pain, burning, or discharge.	Fever; may be high. <i>Female genitals:</i> <ul style="list-style-type: none"> • Cervix may be red & swollen, bleed easily, and have erosion, an "eating away" of tissue. • Moving cervix is very painful. • <i>Wet prep:</i> A lot of white blood cells seen. Gonorrhea culture may be positive.
GALLBLADDER ATTACK [acute cholecystitis; inflammation of the gallbladder] (Plan cont.at [8])	Pain may be recurrent: <ul style="list-style-type: none"> • Often starts after eating fatty or oily food. • In right upper quadrant; may go to back, below shoulder blade. Often has nausea and vomiting	May have yellow color of skin and whites of eyes (jaundice). Often has fever. <i>Abdomen:</i> Tenderness (involuntary guarding) in right upper quadrant; often has rebound tenderness.
INTESTINAL OBSTRUCTION [bowel obstruction; blockage of intestine] (Plan continues at [9])	Pain: Severe cramping. Severe vomiting; vomit may look like bile (yellow or green, tastes bitter) or may smell like bowel movement. Constipation; is NOT having bowel movements. Often has past history of abdominal surgery. May have past history of intestinal obstruction.	<i>Abdomen:</i> <ul style="list-style-type: none"> • Appearance: Distended. • Bowel sounds: loud gurgles followed by silence, or maybe no bowel sounds. • With percussion, may sound very hollow, like drum. • Tenderness (involuntary guarding). • May have lump (hernia) along a scar, in groin, or at belly button (umbilicus).

- Your assessment may be that the acute abdomen is caused by one of the following:
 - ☐ appendicitis [5].
 - ☐ diverticulitis [6].
 - ☐ infection in fallopian tubes [7].
 - ☐ gallbladder attack [8].
 - ☐ intestinal obstruction [9].

[5] If appendicitis, in addition to transporting, plan should include the following:

- If transport is delayed, give an antibiotic.
 - ☐ if I.M. dose is more than 3 cc., it is best to divide the dose into two shots, one on each side of body.
 - ☐ antibiotics are listed in order of recommended treatment. Give one of the following:

Give I.M. shot of **CEFTRIAXONE** (Rocephin®; 250 mg./ml.).

- See "Mixing Powdered Medicines for Injection," p.421.
- Read instructions carefully on how to mix the medicine.
- **Give shot every 12 hours:**

Weight	Approximate Age	Dose
Less than 25 lbs.	Less than 18 mo.	Consult doctor.
25-31 lbs.	18 mo. thru 2 yrs.	500 mg. (2 cc.)
32-39 lbs.	3-4 yrs.	625 mg. (2½ cc.)
40-54 lbs.	5-7 yrs.	750 mg. (3 cc.)
55-99 lbs.	8-12 yrs.	1,000 mg. (4 cc.)
100 lbs. or more	13 yrs. or more	1,000 mg. (4 cc.) OR 2,000 mg. every 24 hrs

OR:

Give I.M. shot of **AMPICILLIN**.

- See "Mixing Powdered Medicines for Injection," p.421.
- Read instructions carefully on how to mix the AMPICILLIN. It is mixed differently for I.V. or I.M. use.
 - ☐ do NOT save AMPICILLIN once it is mixed. It is only good for about one hour.
- The number of mg. in each cc. depends on size of the bottle of medicine you have.
- **Give one dose every 6 hours:**

Weight	Approximate Age	Dose
Less than 25 lbs.	Less than 18 mo.	Consult doctor.
25-34 lbs.	18 mo. thru 3 yrs.	375 mg.
35-49 lbs.	4-6 years	500 mg.
50-69 lbs.	7-9 yrs.	750 mg.
70 lbs. or more	10 yrs. or more	1,000 mg.

OR:

Give I.M. shot of **PROCAINE PENICILLIN** (Wycillin®):

- **Give shot every 12 hours:**

Weight	Approximate Age	Dose
Less than 25 lbs.	Less than 18 mo.	Consult doctor.
25-34 lbs.	18 mo. thru 3 yrs.	450,000 Units
35-49 lbs.	4-6 yrs.	600,000 Units
50 lbs. or more	7 yrs. or more	1,200,000 Units

- If the appendix breaks (ruptures), the following will happen:

- ☐ pain may suddenly go away for an hour or so. Next, pain will return and get worse.
- ☐ fever will get higher.
- ☐ abdomen will slowly get hard all over.
- ☐ patient may go into shock (weak, fast pulse; low BP). If shock, go to p.7.

[6] If diverticulitis, in addition to transporting, your referral doctor may suggest that you also give antibiotics.

[7] If infection in fallopian tubes (PID), in addition to transporting, plan should include the following:

- Give antibiotics for PID as on p.137, "If woman has low abdominal pain."
- If woman is NOT vomiting and pain is NOT severe, in this case patient may have clear liquids by mouth.

[8] If gallbladder attack, in addition to transporting, if patient is NOT vomiting and pain is NOT severe, patient may have clear liquids by mouth.

[9] If intestinal obstruction, this is a serious emergency. In addition to transporting, plan should include the following:

- Insert a stomach tube if you have been taught (p.85).
 - ☐ this will help to remove fluid and gas from upper part of digestive system.
- Let stomach tube hang down.
- Tape a plastic bag or rubber glove on end of tube, to catch stomach contents that may drain out.

4.2 Plan: Ulcer

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Medicine. Give an antacid:

Give Mylanta II®, Amphojel®, or other antacid.

- **Dose: 1-2 teaspoons or as directed.**
- Patient should repeat every 3-4 hours, more often if needed.

[3] Other plan. should include the following:

- Consider that the assessment may be "heart attack" (p.20).
- If NOT heart attack:
 - ☐ plan to recheck once a day until patient is OK.
 - ☐ now go to plan on p.68 for "Ulcer: Follow-Up Care."

4.3 Plan: Possible Kidney Stone

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor, follow this plan until you can.

[2] Patient education should include information in chart 4.3.

Chart 4.3

Patient Education KIDNEY STONE

1. What causes a kidney stone?
This is often not known.
2. Drink a lot of liquids.
 - Avoid milk until a stone has been analyzed.
 - Every day drink 10-13 glasses of water or other liquid, enough to keep your urine colorless.
 - Drinking a lot of liquids will help to:
 - ☐ push any stones out.
 - ☐ prevent more stones from forming.
3. Save any stones that you pass:
 - A good way to save them is to urinate through a piece of gauze.
 - Every time you urinate, look closely to see if you passed a stone. You may NOT feel a stone pass.
 - Your CHA/P can send the stone to the hospital lab for analysis. The doctor may recommend diet changes or medicine.

[3] Medicine may include the following:

- *If pain is severe,* and you can NOT reach a doctor, give a shot of pain

medicine. Use MORPHINE or MEPERIDINE (Demerol®) (p.417).

- *If patient has burning when urinating* or other findings of a urinary tract infection, also give antibiotics for urinary tract infection (p.126).

[4] Recheck as follows:

- Recheck at these times:
 - ☐ in 12 hours, if patient looks sick or has severe pain.
 - have someone stay with patient.
 - ☐ in 1 day, sooner if feeling worse.
- Examine:
 - ☐ vital signs: T, P, R, BP.
 - ☐ back.
 - ☐ abdomen.
 - ☐ urine dipstick.
- Report to your referral doctor.
- *If patient passes a stone,* send to your referral hospital lab for analysis. Include a lab slip, filled out with patient's name and brief history.

4.4 Plan: Other or Unknown Cause of Abdominal Pain

[1] Consider other assessments that you can treat:

- *If you have found another problem,* such as urinary tract infection, strep throat or pneumonia, especially in a child:
 - ☐ also treat that problem as in this manual. That problem may be causing the abdominal pain.
- *If woman's period was late and she has abnormal vaginal bleeding and pain in the low abdomen,* this may be ectopic pregnancy. Now go to p.158, "Bleeding or Severe Abdominal Pain in Pregnant Woman."
- *If you think patient's main problem is vomiting or diarrhea,* now go to p.70.
- *If you think patient's main problem is "heartburn," indigestion, or constipation,* now go to p.75.

[2] Report all other patients to your referral doctor.

If you can NOT reach the doctor, follow this plan until you can.

[3] Other plan should include the following:

- Reassure the patient.
- *If patient has severe pain or is very sick,* treat for possible acute abdomen (Plan 4.1).
- *If woman also has vaginal discharge AND if moving the cervix hurts,* treat for infection in fallopian tubes. Now go to p.137, "If woman has low abdominal pain."
- Diet: Suggest that when patient eats, he should have clear liquids and slowly return to his usual diet.
- *If recurrent abdominal pain,*
 - ☐ lab tests should include bowel movement for hidden blood (p.84). The doctor may want patient to collect three separate samples.
 - ☐ often, patient will need to go to hospital for tests or X-rays. Some common causes of recurrent abdominal pain are the following: ulcer; gallbladder trouble; constipation; scarring of fallopian tubes from infection; tumor.
- Abdominal pain may be caused by nervousness and stress. For example, a child may complain of abdominal pain if he is upset about school or home problems. If you think stress is the cause:
 - ☐ reassure patient.
 - ☐ follow general guidelines for talking and counseling (p.219).
 - ☐ treat anxiety (p.207) or other problems as in this manual.

[4] Recheck in one day, sooner if patient is:

- Age 65 or more.
- Very sick or feeling worse.

ULCER: FOLLOW-UP CARE

Begin here for follow-up care of patient who has an ulcer in the stomach or duodenum.

1. Get Information from the Doctor

You need to know the doctor's assessment and plan, including:

- 1.1 Medicine:** For each medicine patient is supposed to take, find out the following:
 - Name.
 - Dose.
 - How often patient should take it.
 - Warnings and side effects patient should look for.
 - Possible problems when taking other medicine at the same time (drug interactions).
 - When should prescription be changed (increased or stopped)?
- 1.2** Are there any special problems or symptoms to watch for in this patient?
- 1.3** Is there other special patient education, such as things the patient should avoid?
- 1.4** When will patient need repeat tests to see if ulcer has healed?
 - How will these be arranged?

2. Get History From Patient

- 2.1 Medicine:**
 - Does patient take medicine as directed?
 - How often does patient need to take antacids?
 - Are there side effects or problems from the medicines?
- 2.2** Does patient have any problems, such as:
 - A warning sign of digestive system bleeding:
 - ☐ vomit that looks like blood or "coffee grounds"?
 - ☐ bowel movement that has lots of blood in it or looks black, like tar.
 - ☐ *if so, now go to p.80, "Severe Digestive System Bleeding."*
 - Abdominal pain? *If so, find out more about the pain:*
 - ☐ what is it like?
 - ☐ is it the same pain patient had before?
 - ☐ is it getting better, getting worse, or changing in any way?
 - ☐ *if severe abdominal pain, now go to p.63, "Abdominal Pain."*
 - Other problems?

3. Exam

- 3.1** General appearance.
- 3.2** Vital signs: P, BP.
- 3.3** Weight: Any weight loss?
- 3.4** Abdomen:
 - Bowel sounds.
 - Feel for tenderness/lumps. Be sure to feel the epigastric area (upper abdomen, where ribs meet).
- 3.5** Lab tests:
 - Hemoglobin.
 - ☐ check once a month for first 2-3 months.
 - ☐ any change?
 - Bowel movement for hidden blood (p.84).

4. Assessment

- 4.1** Your assessment should include:
Ulcer: follow-up care.
- 4.2** Also include in your assessment:
 - "Doing well," if no problems.
 - Problems with medicine:
 - ☐ side effects.
 - ☐ NOT taking as directed.
 - Abdominal pain or tenderness.
 - Signs of digestive system bleeding:
 - ☐ drop in hemoglobin.
 - ☐ bowel movement positive for hidden blood.

5. Plan

- 5.1 Patient education** is important in order to try to heal the ulcer and prevent it from recurring.
 - Get patient education handouts from your referral hospital or other sources.
 - Give information in chart 5.1.
- 5.2 Medicine** plan should include the following:
 - Discuss importance of taking medicine.
 - ☐ patient should let you know when he is running low, in time to get a refill.
 - If needed, explain what each medicine is used for. For example:
 - ☐ antacids (Mylanta II®, Amphojel®, or other antacids) make stomach less acidic.

- ☐ CIMETIDINE (Tagamet®) or RANITIDINE (Zantac®) cause the stomach to make less acid.
- ☐ SUCRALFATE (Carafate®) coats and protects the ulcer, to allow healing.
- Remind patient about warnings and possible side effects.

Chart 5.1

Patient Education ULCER

1. Even when you are feeling OK, avoid things that irritate the stomach:
 - Avoid alcohol.
 - Avoid any foods that you find bother your stomach, especially spicy foods (including pepper).
 - Avoid ASPIRIN or other arthritis medicine unless your doctor says it is OK.
 - ☐ ACETAMINOPHEN (Tylenol®) is OK for you to use.
 - Avoid caffeine until pain is gone (coffee, regular tea, cola drinks, chocolate; p.446).
2. **NO SMOKING OR CHEWING TOBACCO!** Tobacco slows healing of the ulcer and makes stomach acid problems worse.
3. Worry and stress may not be a cause of ulcers, but they make make an ulcer worse. If needed:
 - Talk to someone who will understand and support you.
 - Follow guidelines for reducing stress (p.221).
4. See your CHA/P as soon as possible if you get a warning sign of bleeding in the digestive system:
 - Vomit that looks like blood or "coffee grounds."
 - Bowel movement that has lots of blood in it or looks black.
 - ☐ every time you have a bowel movement, look at it.
5. If pain returns, see your CHA/P. You may get an ulcer again, months or years later.

- If side effects, treat as recommended by your referral doctor.
- Give patient a refill, if needed.

5.3 Recheck: Make appointment for next visit. If doing well, see patient once a month, until your referral doctor tells you differently.

5.4 Report to your referral doctor:

- If possible, send a copy of your SOAP note to the doctor. Contact him sooner if you found any problems.

5.5 Other plan may include the following:

- Order more medicines, if needed.
 - ☐ fill out the pharmacy refill request, if needed.
- Check to see that:
 - ☐ patient's name is on list of patients to be seen on a field trip by the doctor.
 - ☐ this chronic problem is written on patient's problem list.
- *If patient is NOT getting better*, doctor may suggest other tests, surgery.

VOMITING OR DIARRHEA

Begin here if patient's chief complaint is vomiting and/or diarrhea.

diarrhea = several liquid or watery bowel movements in a day.

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** *How did the problem start?*
- What does patient think caused the problem?
 - ☐ *if poisoning or drug overdose*, now go to p.11.

- [2]** *What is the problem like now?*
- How often does patient vomit or have diarrhea?
 - What amount of (how much) vomit or diarrhea does patient have each time?
 - If infant, understand what is normal:
 - ☐ do not confuse vomiting with "wet burps" (burping up one teaspoon amounts after eating).
 - ☐ if breast fed infant, normal bowel movement is soft and mushy (not watery) and clings to diaper.

- [3]** *If vomiting, ask:*
- What does the vomit look like?
 - ☐ food?
 - ☐ blood or "coffee grounds?" *If so*, now go to p.80, "Severe Digestive System Bleeding."
 - ☐ bile (yellow or green, tastes bitter)?
 - Is patient able to keep down any food or drink?
 - Does the vomit come out with a lot of force (seems to "shoot" out; projectile vomiting)?

- [4]** *If having diarrhea, ask:*
- What does the diarrhea look like?
 - ☐ is there pus or lots of mucus?
 - ☐ lots of blood or looks black, like tar? *If so*, now go to p.80, "Severe Digestive System Bleeding."
 - Does it happen after drinking or eating milk products (milk, cheese, ice cream)?

- [5]** Does patient have other problems of the digestive system, such as:
- Loss of appetite?
 - Trouble swallowing (solids, liquids)?
 - "Heartburn" or indigestion? *If so:*
 - ☐ do certain foods make this happen, such as fatty or spicy foods?
 - ☐ does patient burp sour, hot liquid into back of mouth? *If so*, is this worse at night?
 - Abdominal pain or swelling?
 - ☐ *if chief complaint is "abdominal pain,"* now go to p.63.

- Problems with gas, such as:
 - ☐ burping?
 - ☐ passing gas (farting)?
- Change in bowel movements?

[6] Does patient have warning symptoms of dehydration?

- Very thirsty?
- Dry mouth?
- Urine:
 - ☐ little or no urine passed in 8 hours?
 - ☐ urine that is passed is dark, strong smelling?

[7] Recent history:

- Injury to head? *If so*, now go to p.259.
- Injury to abdomen or back? *If so*, now go to p.61.
- Diet: What has patient been eating recently? Does diet include:
 - ☐ food that may have been spoiled?
 - ☐ drinking water that may have been contaminated?
 - ☐ home canned or fermented food in the past few days? *If so*, now go to p.281. Consider that the assessment is botulism.
 - ☐ shellfish, such as clams or mussels in the past day? *If so*, now go to p.282. Consider that the assessment is shellfish poisoning.
- Drinking alcohol or taking illegal ("street") drugs? *If so:*
 - ☐ what?
 - ☐ when?
 - ☐ what amount (how much)?

1.2 Past Health History

[1] Illnesses?

[2] Operations: Surgery on abdomen?

[3] Medicines:

- What medicines is patient taking now, including:
 - ☐ medicines that may irritate the stomach, such as ASPIRIN or other arthritis medicine.
 - ☐ antibiotics (may cause nausea, vomiting, or diarrhea).

[4] *If a woman, ask: "Could you be pregnant?"*

- If pregnant, after you examine, treat vomiting as in the prenatal care section of this manual:
 - ☐ "Morning sickness," p.156.
 - ☐ "Persistent Vomiting in Pregnant Woman," p.163.

1.3 Other History

[1] Does patient have other complaints, such as:

- Fever or chills?
- Weight loss?
- Sore throat?
- Cough?
- Urinary problems?
- Having lots of worries/stress?

[2] Are other people at home or in village sick with the same problem?

[3] If vomiting, also ask about problems with head, such as:

- Headache?
- Feeling dizzy or having coordination or balance problems?
 - ☐ if chief complaint is feeling dizzy plus vomiting, go to p.279. Examine for "Other Nervous System Problems," and consider that the assessment is "dizziness (vertigo)."

2. Exam

2.1 General Appearance.

2.2 Vital signs: T, P, R, BP.

- If patient looks very sick, check P & BP with patient lying down, then sitting up.

- ☐ treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.

- ☐ if treating for shock, use LACTATED RINGER'S I.V. fluid, if available.

2.3 Weight: Any weight loss?

2.4 If infant, check head: Feel the soft spot (fontanelle). Is it:

- Bulging or tight to the touch?
- Normal?
- Sunken?

2.5 If infant or child, check ears.

2.6 Mouth and throat.

2.7 Neck:

- Feel for enlarged lymph nodes.
- If vomiting, check for signs of meningitis. Have patient bend neck forward to touch chin to chest. If needed, gently push head forward.

- ☐ if stiff neck or if knees bend or pull up, now go to p.282. Consider that the assessment is "meningitis."

2.8 Chest:

- Breath sounds.

2.9 Back:

- Hit gently in each kidney area to check for tenderness (CVA tenderness, p.389).

2.10 Abdomen:

- Appearance, including scar from surgery.
- Bowel sounds.
- If abdomen is swollen (distended), percuss it (p.393).
- Feel for tenderness/lumps. If patient can NOT relax muscles in one place or if rebound tenderness (hurts more when you quickly let go), now go to p.63, "Abdominal Pain."
- Feel for liver and spleen.

2.11 Skin:

- If child or young adult, check for dehydration: Gently pinch a fold of skin and quickly release (p.412).

2.12 Lab test:

- If urinary problem, do urine dipstick for:
 - ☐ infection (leukocytes/white blood cells or nitrite).

3. Assessment

3.1 Your assessment should be:

Vomiting and/or **Diarrhea**.

3.2 Include in your assessment if patient has dehydration. Use chart 3.2, if needed.

3.3 Try to make a more specific assessment.

- Most vomiting or diarrhea not covered under above history and exam is due to gastroenteritis.
- Use chart 3.3.

3.4 Include in your assessment that the problem is caused by one of the following:

- **Gastroenteritis** (Plan 4.1).
- **Serious diarrhea** (Plan 4.2).
- **Gastritis** (Plan 4.3).
- **Other or unknown cause** (Plan 4.4).

Chart 3.2

DEHYDRATION: ASSESSMENT AND TYPICAL FINDINGS

Dehydration happens when too much fluid is lost from the body. Dehydration can happen quickly and can kill, especially in infants.

Warning signs of dehydration include the following:

History:

- Very thirsty.
- Feeling sick, weak, tired.
 - ☐ if a baby: fussy.
- Urine: little or no urine passed in 8 hours.
 - ☐ what is passed is dark, strong smelling.

Exam:

- Weight loss.
 - ☐ quick weight loss over hours or a few days comes from fluid loss.
 - ☐ this is often the first sign of dehydration.
- If infant, head with sunken soft spot (anterior fontanelle).
- Eyes: Sunken, with dark circles under them.
- Mouth: Dry tongue and mucous membranes.
- Skin: If infant or young adult, a later sign of severe dehydration is if skin stays "tenting up" a while when pinched (poor skin turgor).

4. Plan

4.1 Plan: Gastroenteritis

[1] Report to your referral doctor unless the problem is mild and he has signed for you to treat gastroenteritis without contacting him.

- *Always report if:*
 - ☐ patient is young infant. This patient has high risk for serious dehydration.
 - ☐ vomiting or diarrhea is severe or has gone on for more than 24 hours.

Chart 3.3

Vomiting or Diarrhea: Some Assessments and Typical Findings

Assessment	History	Exam
GASTROENTERITIS ["stomach or intestinal flu;" often an infection caused by a virus] (Plan 4.1)	Diarrhea. May also have vomiting. Crampy abdominal pain that began fairly quickly. Others in village may be sick with same problem, lasting 4-8 days in infants.	<i>Vital signs:</i> Normal except may have <i>low</i> fever. <i>Abdomen:</i> <ul style="list-style-type: none"> • Bowel sounds may be very active. • May have tenderness, but patient can relax muscles (NO involuntary guarding).
SERIOUS DIARRHEA [may be caused by bacteria such as <i>Salmonella</i> or <i>Shigella</i> (serious food poisoning) or may be caused by other severe inflammation of the intestine] (Plan 4.2)	Diarrhea: <ul style="list-style-type: none"> • May be severe. • Goes on for more than 24 hours. • May have pus, mucus, or some blood in it. Loss of appetite. Crampy abdominal pain: Began fairly quickly; maybe severe. Others in village may be sick with same problem.	May look very sick. Often has high fever. May have weight loss or other signs of dehydration.
GASTRITIS [inflammation, irritation of the stomach] (Plan 4.3)	May have nausea and vomiting (maybe with some blood in vomit); may have diarrhea. Loss of appetite may be only symptom. Abdominal pain or swelling in epigastric area (upper abdomen, where ribs meet). Often history of: <ul style="list-style-type: none"> • Drinking a lot of alcohol or coffee. • Eating spicy foods. • Having lots of worries/stress. • Medicines that may irritate stomach, such as ASPIRIN or other arthritis medicine 	<i>Abdomen:</i> <ul style="list-style-type: none"> • Bowel sounds may be active. • Mild tenderness in epigastric area, but abdomen is soft.

- ☐ vomit comes out with force.
- ☐ diarrhea has pus, mucus, or some blood in it.
- ☐ others in village are sick with the same problem.
- ☐ patient looks very sick or has high fever.
- ☐ patient has weight loss or other signs of dehydration.

If you can NOT reach a doctor:

- Follow this plan until you can.
- If you think patient needs emergency care at hospital, give the following treatment while someone else arranges for transport.

[2] Give liquid and recheck as for most causes of vomiting or diarrhea. Now go to Plan 4.5.

4.2 Plan: Serious Diarrhea

[1] Report NOW to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Give liquid and recheck as for most causes of vomiting or diarrhea. Go to Plan 4.5.

[3] Other plan depends on your

referral doctor's assessment and may include:

- Giving an antibiotic.
- Transporting to hospital.

4.3 Plan: Gastritis

[1] Report to your referral doctor unless the problem is mild and he has signed for you to treat this problem without contacting him.

- *Always report if:*
 - ☐ patient is a child.
 - ☐ patient has been taking medicines that may irritate the stomach, such as ASPIRIN or other arthritis medicine.

- ☐ vomiting or diarrhea is severe or has gone on for more than 24 hours.
- ☐ vomit has some blood in it.
- ☐ this is a recurrent problem.
- ☐ patient looks very sick or has fever.
- ☐ patient has weight loss or other signs of dehydration.
- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.3.

Chart 4.3

Patient Education GASTRITIS

1. Even when you are feeling OK, avoid things that irritate the stomach.
 - Avoid alcohol.
 - Avoid caffeine: Coffee, regular tea, cola drinks, chocolate (p.446).
 - Avoid foods that have a lot of acid, such as tomato sauce, orange juice.
 - Avoid spicy foods, including pepper.
 - Avoid ASPIRIN or other arthritis medicine, unless your doctor says it is OK.
2. NO SMOKING! Smoking slows healing of the stomach and makes stomach acid problems worse.
3. Worry and stress probably do NOT cause this problem, but they may make it worse. If needed:
 - Talk to someone who will understand and support you.
 - Follow guidelines for reducing stress (p.221).
4. See your CHA/P as soon as possible if you get a warning sign of bleeding in the digestive system:
 - Vomit that looks like blood or "coffee grounds."
 - Bowel movement that has lots of blood in it or looks black, like tar.

[3] Medicine. Give an antacid:

Give Mylanta II®, Amphojel®, or other antacid.

- **Dose: 1-2 teaspoons or as directed.**
- *If nausea or heartburn*, patient may repeat every 30-60 minutes if this seems to help.
- *When feeling better*, patient should continue the medicine for a few days: 1 hour and 3 hours after meals, at bedtime, and other times if needed.

[4] Give liquid and recheck as for most causes of vomiting or diarrhea. Now go to Plan 4.5.

4.4 Plan: Other or Unknown Cause of Vomiting, or Diarrhea

This plan includes possible food poisoning when patient does NOT look very sick or have fever.

[1] Consider other assessments

that you can treat. If the cause of the vomiting or diarrhea is not covered above under history, exam, or assessment, consider the following:

- *If you have found another problem*, such as an ear infection, pneumonia, or other illness:
 - ☐ follow the plan for that problem in this manual. That problem may cause vomiting or diarrhea, especially in a child.
 - ☐ give liquid as for most causes of vomiting or diarrhea (Plan 4.5).
- *If patient gets diarrhea whenever he drinks milk or eats milk products* such as cheese or ice cream:
 - ☐ report to your referral doctor.
 - ☐ while you are waiting to report, put patient on a low milk diet:

Patient Education LOW MILK DIET

1. Try smaller amounts of milk.
 - Drink no more than ½ cup of milk with a meal.
2. For an infant:
 - Breast feeding is OK.
 - Other infants should use soy formula (Examples: Isomil®, Nursoy®, Prosobee®, Soyabac®).

[2] Report all other patients to your referral doctor.

- While you are waiting to report, follow this plan.
- If you think patient needs emergency care at hospital, give the following treatment while someone else arranges for transport.

[3] Give liquid and recheck as for most causes of vomiting or diarrhea. Now go to Plan 4.5.

4.5 Plan: General, for Most Causes of Vomiting or Diarrhea

[1] First, follow the specific plan above for your assessment.

- Always report if patient has recent history of eating home canned food, fermented food, or shellfish, and has symptoms of botulism or shellfish poisoning (p.281, 282).

[2] Give liquid and patient education, as needed. Use the correct chart 4.5 for patient's age.

[3] Medicine is usually NOT recommended.

- If patient has diarrhea, medicine may hide the problem. Diarrhea may seem better, while patient is losing more fluid into the intestines.

[4] Recheck as follows:

- Recheck at these times:
 - ☐ every few hours if patient is very sick or is NOT getting better, including if patient has:
 - high fever.

- severe headache or change in behavior.
- choking.
- abdominal pain or swelling.
- signs of dehydration (Chart 3.2).
- ☐ in 24 hours, if patient is NOT very sick.
- ☐ every 1-2 days until OK.
- Get history:
 - ☐ is patient having any vomiting or diarrhea?
 - ☐ how much liquid has patient taken? Has he taken any other food?
 - ☐ if patient is on medicine, such as an antibiotic, is he keeping it down OK?
- Examine:
 - ☐ temperature.
 - ☐ weight. Any change?
 - ☐ if patient is NOT getting better, repeat the exam you did on the first visit.
- Report to your referral doctor if patient:
 - ☐ is not keeping down liquids or medicine.
 - ☐ has weight loss or other signs of dehydration.
 - ☐ is NOT OK within one week.
- If patient vomits all liquid, has signs of dehydration, and you can NOT reach a doctor, do the following:
 - ☐ if adult, give medicine for vomiting.

Medicines for vomiting are listed in order of recommended treatment. Give an adult ONE of the following choices:

1. **PROMETHAZINE (Phenergan®)** suppositories:
 - Give **one 25 mg. rectal suppository.**
2. **PROCHLORPERAZINE (Compazine®)** suppositories:
 - Give **one 25 mg. rectal suppository.**

- ☐ continue with rest and liquids.
- ☐ recheck patient often.
- ☐ if medicine does NOT help or is not available:
 - this patient probably will need transport to hospital.

- start an I.V. (p.427). Use LACTATED RINGER'S I.V. fluid, if available.
- adjust rate of the I.V. as recommended by your referral doctor. If you can NOT reach a doctor, run I.V. at "maintenance rate" (p.434).
- remove the I.V. when patient is holding down liquids well, and does NOT show signs of dehydration.

- Patient education should include the following:
 - ☐ review diet plan (Chart 4.5).
 - ☐ be sure patient understands how to prevent infections that can cause vomiting or diarrhea. The following is important:
 - when storing food, keep it cool; refrigerate.
 - use clean water; purify if needed.
 - keep hands clean; wash hands before preparing food.
 - follow other guidelines for preventing the spread of communicable disease (p.442).

Chart 4.5 — A

Patient Education VOMITING OR DIARRHEA DIET PLAN: AGE UP TO TWO YEARS

1. Start the baby on a special clear liquid diet
 - If baby is breast feeding, he may continue to breast feed, but should have extra liquid to prevent dehydration.
2. Suggested liquids to give are the following:
 - Special packets of powder that can be mixed with water. Examples: Hydralyte®, Infalyte®, or ORAL REHYDRATION SALTS.
 - ☐ should be available through your CHA/P. Mix with carefully measured amounts of clean or boiled water.

- Special solutions that are ready to use. Examples: Pedialyte®, Lytren®.
- ☐ may be available in your local store.

3. If you do not have any of the suggested liquids, you can use:

- Gatorade® (may be available in your local store).
- A solution you can make by mixing the following:
 - ☐ 1 quart (4 cups) clean water.
 - ☐ ½ teaspoon salt.
 - ☐ ½ teaspoon baking soda.
 - ☐ 5 teaspoons sugar (not honey).
 - ☐ warning: measure carefully, or the solution may make your baby worse! Use measuring cups for the water, and measuring spoons for the other ingredients.

4. AVOID the following liquids:

- Avoid milk the first day, if baby continues to have diarrhea.
- Avoid juices and sugary liquids such as soda-pop, Kool-Aid® or Jello® water. These liquids may make your baby worse. They give too much sugar and not enough of other chemicals.

5. How much liquid to give depends on the problem and baby's age:

- In the First 24 Hours, the following amounts are suggested:

Vomiting and Diarrhea in Babies: Amount of Liquid Needed in the First 24 Hours

Weight (before illness)	Approximate Age	Ounces of Liquid	Approximate Number of 8 oz Baby Bottles
7-9 lbs.	1-4 wks.	16-20 oz.	2 - 2½
10-12 lbs.	5 wks. thru 2 mo.	23-27 oz.	3 - 3½
13-15 lbs.	3-4 mo.	30-34 oz.	3½ - 4½
16-18 lbs.	5-7 mo.	36-41 oz.	4½ - 5
19-21 lbs.	8-11 mo.	43-48 oz.	5½ - 6
22-24 lbs.	12-17 mo.	50-55 oz.	6 - 7
25-27 lbs.	18-23 mo.	57-61 oz.	7 - 7½

- **If vomiting:**
 - ☐ it may help at first to give no liquid for 1-2 hours.
 - ☐ begin with small amounts of liquids. Give 1-2 Tablespoons every 20 minutes for 1-2 hours.
 - ☐ if baby keeps down the liquid, increase the amount you give and give it every 3-4 hours.
- **If baby is dehydrated or continues to have diarrhea,** your referral doctor may suggest that you give more liquid than the amount listed above.
- Give more liquid if the baby wants it. He is getting enough liquid if:
 - ☐ he is urinating as often as normal.
 - ☐ the urine is light colored and NOT strong smelling.
- 6. If baby is doing OK, advance the diet slowly:
 - **After 12 hours,** if baby is keeping down clear liquids, try some other food (if baby's diet included other food before he got sick). Give *small* amounts of:
 - ☐ half-strength formula.
 - ☐ applesauce.
 - ☐ bananas.
 - ☐ rice or barley baby cereal.
 - ☐ Saltine® type crackers.
 - ☐ toast.
 - **If diarrhea comes back after milk formula is tried,** use soy formula for 1-2 weeks (Examples: Isomil®, Nursoy®, Prosobee®, Soyalac®).
 - **After 24 hours,** slowly return to baby's usual diet.
 - ☐ first, it is good to add well-cooked vegetables, canned fruit, and plain meat.
 - ☐ if baby's problem was diarrhea, add more foods slowly over the next 7-10 days. If diarrhea starts again, go back to the diet of the day before.
 - ☐ if baby's problem was vomiting only, add foods

back over the next 1-2 days. Avoid spicy or greasy foods for 2-3 days.

- Baby should NOT stay on clear liquids alone for longer than 24-48 hours (1-2 days).

Chart 4.5 — B
Patient Education
VOMITING OR DIARRHEA
DIET PLAN:
AGE TWO YEARS OR MORE

1. Start on a clear liquid diet.
 - **If your CHA/P thinks you may have dehydration,** use the same suggested liquids for vomiting or diarrhea in a baby (chart 4.5 — A).
 - For most patients your age, dehydration is NOT a problem and a regular clear liquid diet is suggested:
 - ☐ juice.
 - ☐ clear soup or broth.
 - ☐ weak tea.
 - ☐ water.
 - ☐ other clear liquids, such as soda pop.
 - ☐ no milk or solid foods.
2. How much liquid should you take?
 - **If you have vomiting:**
 - ☐ it may help at first to rest and take no liquid for 2-4 hours.
 - ☐ begin with small amounts of liquids every 20 minutes for 1-2 hours.
 - ☐ if you keep down the liquid, increase the amount you take and take it every 3-4 hours.
 - If you have lost a lot of fluid, you will probably need at least 2 quarts of liquid in the first 24 hrs.
 - You are getting enough liquid if:
 - ☐ you are urinating as often as normal.
 - ☐ the urine is light colored and NOT strong smelling.

3. If you are doing OK, advance your diet slowly:
 - **After 12 hours,** if you are holding down the clear liquids, try some food. Eat *small* amounts of bland food such as the following:
 - ☐ crackers.
 - ☐ toast.
 - ☐ soup that is NOT greasy.
 - Slowly return to your usual diet over the next 2-3 days. Avoid spicy or greasy foods for 2-3 days.
 - You should NOT stay on clear liquids alone for longer than 24-48 hours (1-2 days).

OTHER DIGESTIVE SYSTEM PROBLEMS

For severe digestive system bleeding, now go to plan 4.3.

Begin here if patient has chief complaint related to the digestive system, OTHER than abdominal pain (p.63), vomiting, or diarrhea (p.70). This section includes the following problems:

- Anus problems.
- Constipation.
- "Heartburn" or indigestion.
- Nausea without vomiting or abdominal pain.
- Yellow color of skin and white part of eyes (jaundice).
- Worms.

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Does patient have other problems of the digestive system:

- Loss of appetite (anorexia)?
- Nausea or vomiting?
 - ☐ if vomiting, what does the vomit look like? If vomit looks like blood or "coffee grounds," now go to Plan 4.3, "Severe Digestive System Bleeding."
- Trouble swallowing (solids, liquids)? If so, does it feel like food sticks somewhere? Where?
- "Heartburn" or indigestion? If so:
 - ☐ do certain foods make this happen, such as fatty or spicy foods?
 - ☐ does patient burp sour, hot liquid into back of mouth? If so, is this worse at night?
 - ☐ does antacid medicine make it better?
- Abdominal pain or swelling?
- Problems with gas, such as:
 - ☐ burping?
 - ☐ passing gas (farting)?
- Problems with anus (hemorrhoids, pain, itching, burning, discharge)?
- Constipation?
- Diarrhea?
- Blood in bowel movement? If so:
 - ☐ where is the blood seen (just on outside of bowel movement or mixed into bowel movement)?
 - ☐ what color is the blood (bright red or darker)?
 - ☐ how much blood is there? For example:
 - just streaks on toilet paper?
 - enough to color water in toilet pink?
 - lots of blood?
- Other change in bowel movements (size, shape, color, or number per day)?
- If bowel movement has lots of blood or looks black like tar, now go to Plan 4.3, "Severe Digestive System Bleeding."
- When was the last bowel movement? Was it normal? Was it soft or hard?

[2] Recent history:

- Injury to abdomen or back?
- Drinking alcohol or taking illegal ("street") drugs? If so:
 - ☐ what?
 - ☐ when?

☐ what amount (how much)?

- If jaundice (yellow color of skin and white part of eyes), also ask about recent:

- ☐ blood transfusion?
- ☐ work with any chemicals?
- ☐ exposure to someone with jaundice or hepatitis?

1.2 Past Health History

[1] Illnesses:

- Problems with:
 - ☐ stomach (ulcer)?
 - ☐ gallbladder?
 - ☐ liver (hepatitis), or previous jaundice?
 - ☐ bowels?
 - ☐ rectum, anus (hemorrhoids)?

[2] Operations?

[3] Serious injuries to the digestive system?

[4] Medicines:

- What medicines is patient taking now?

[5] Immunizations:

- Has patient been:
 - ☐ tested for immunity to hepatitis B?
 - ☐ immunized against hepatitis B?

[6] If a woman, ask: "Could you be pregnant?"

- If pregnant, treat minor discomforts of pregnancy as on p.156.

1.3 Other History

[1] Does patient have other complaints, such as:

- Fever or chills?
- Weight loss? If so, how much in the past 12 months?
- Urinary problems?
- Having lots of worries/stress?

[2] Are other people at home or in village sick with the same problem?

[3] Diet:

- What has patient been eating during the past few days? Does diet include:
 - ☐ caffeine, such as coffee, tea, cola drinks?
 - ☐ spicy foods?
 - ☐ foods with fiber, such as raw fruit and vegetables, bran or whole grain cereal (p.446)?
- History of eating raw (uncooked) fish in past few months?

2. Exam

2.1 General Appearance.

2.2 Vital signs: T, P, R, BP.

- If patient looks very sick, check P & BP with patient lying down, then sitting up.
 - ☐ treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.

2.3 Weight: Any change?

2.4 Mouth and throat.

2.5 If trouble swallowing, check neck:

- Appearance.
- Feel for:
 - ☐ lymph nodes, other lumps.
 - ☐ thyroid.

2.6 Chest:

- Breath sounds.

2.7 Abdomen:

- Appearance, including scar from surgery.
- Bowel sounds.
- If abdomen is swollen (distended), percuss it (p.393).
- Feel for tenderness/lumps. If patient can NOT relax muscles in one place or if rebound tenderness (hurts more when you quickly let go), now go to p.63, "Abdominal Pain."
- Feel for liver and spleen.

2.8 Anus and Rectum (wear examination gloves):

- If history of anus problems, examine anus:
 - ☐ appearance. Gently spread/stretch out the skin to look at it all, including just inside the anus.
 - ☐ feel the area for tenderness.
- If constipation with no bowel movement for several days, examine rectum:
 - ☐ lubricate one finger.
 - ☐ feel inside the rectum in all directions. Feel for a lot of very hard stool (bowel movement) that may be stuck there (fecal impaction).
 - ☐ lab test: Check stool that is on your glove for hidden blood (p.84).

2.9 Lab tests:

- Hemoglobin.

- Bowel movement for hidden blood (p.84), if not done above.
- *If urinary problem*, do urine dipstick for:
 - ☐ infection (leukocytes/white blood cells or nitrite).
 - ☐ bilirubin (bile).

3. Assessment

3.1 Your assessment should be:
Digestive system problem.

3.2 Make a more specific assessment. Use chart 3.2.

3.3 Include in your assessment that the problem is one of the following:

- **Anus problem** (such as abscess, anal fissure, hemorrhoids, or other problem; Plan 4.1).
- **Constipation** (Plan 4.2).
- **Severe digestive system bleeding** (Plan 4.3).
- **Gastritis** (Plan: p.72).

- **“Heartburn” or indigestion or nausea without vomiting/abdominal pain** (Plan 4.4).
- **Jaundice** (Plan 4.5).
- **Worms:**
 - ☐ **pinworms** (Plan 4.6).
 - ☐ **tapeworm** (Plan 4.7).
- **Other or unknown digestive system problem** (Plan 4.8).

Chart 3.2

Digestive System Problems: Some Assessments and Typical Findings

Assessment	History	Exam
ANUS PROBLEM (Plan 4.1) Abscess [boil, furuncle, perirectal abscess]	Problem may have started around the base of a hair. May feel sick, have fever and chills.	May look sick, have fever. <i>Anus</i> has inflamed lump (very tender; warm, red, swollen): <ul style="list-style-type: none"> • Edges are firm, from swelling. • Later, in center, becomes soft, white or yellow (from pus inside); may drain pus.
Anal Fissure	May have: <ul style="list-style-type: none"> • Pain during and after having bowel movement. • Bleeding from anus: spotting of bright red blood with bowel movement. • Itching. • Constipation. 	<i>Anus</i> : Fissure looks like little cut/tear/rip in skin at opening of anus.
Hemorrhoids [piles; enlarged or swollen veins of rectum/anus]	May have: <ul style="list-style-type: none"> • Bleeding from anus: bright red blood. • Hemorrhoids that push out from inside anus after bowel movement. • Pain; itching. Common in pregnancy and after delivery. May be present for years.	<i>Anus</i> . Hemorrhoids seen (enlarged veins): <ul style="list-style-type: none"> • May be swollen and look like large, puffy tags of skin. • <i>If clotted</i>: may look bluish; tender lump felt under skin.
CONSTIPATION [common symptom that may be found with other assessments] (Plan 4.2)	Bowel movements are abnormal for the patient: <ul style="list-style-type: none"> • Not passed very often. • Hard; may come out in lumps • Difficult to pass; patient often has to strain a lot. May have crampy abdominal pain, especially on left side.	<i>General appearance</i> : OK. <i>Abdomen</i> : May have lump in left lower quadrant (large bowel felt). <i>Rectum</i> : May have lots of very hard stool stuck there (fecal impaction).
SEVERE DIGESTIVE SYSTEM BLEEDING (Plan 4.3)	One of the following: <ul style="list-style-type: none"> • Vomit looks like blood or “coffee grounds.” • Bowel movement has lots of blood or looks black, like tar (melena). 	Bowel sounds usually very active. <i>Lab tests</i> : <ul style="list-style-type: none"> • Hemoglobin may be low. • Bowel movement positive for blood.

Chart 3.2

Digestive System Problems: Some Assessments and Typical Findings (continued)

Assessment	History	Exam
GASTRITIS [inflammation, irritation of the stomach] (Plan: p.72)	Often has nausea and vomiting (maybe with some blood in vomit); may have diarrhea. Abdominal pain or swelling in epigastric area (upper abdomen, where ribs meet). Often history of: <ul style="list-style-type: none"> • Drinking a lot of alcohol or coffee. • Eating spicy foods. • Having lots of worries/stress. • Medicines that may irritate stomach, such as ASPIRIN or other arthritis medicine 	<i>Abdomen:</i> <ul style="list-style-type: none"> • Bowel sounds may be active. • Mild tenderness in epigastric area, but abdomen is soft.
"HEARTBURN" OR INDIGESTION [common symptoms that may be found with other assessments] (Plan 4.4)	<i>Heartburn</i> , a constant burning or pain: <ul style="list-style-type: none"> • Starts 30-60 minutes after eating; often when lying down or bending over; NOT brought on by exercising. • In epigastric area (upper abdomen, where ribs meet); maybe under breast bone and up into throat. • Gets better after antacids. • May also burp sour, hot liquid into back of mouth. <i>Indigestion.</i> Patient may have any of the following: discomfort after eating, nausea, heartburn, abdominal swelling in epigastric area, extra gas (burps or farts).	<i>Abdomen:</i> <ul style="list-style-type: none"> • Bowel sounds may be active. • May be tender in epigastric area. Rest of exam is normal.
WORMS Pinworms (Plan 4.6)	Itching in anus area, especially at night. May see pinworms in bowel movement or near anus. Others at home may have same problem.	May see pinworms in bowel movement or near the anus: <ul style="list-style-type: none"> • Small white worms about ¼ inch long. • Look like a little piece of white thread. • May be seen wiggling.
Tapeworm (Plan 4.7)	Often has no symptoms. May see tapeworm in bowel movement. Other symptoms may include: crampy abdominal pain, watery diarrhea, weight loss, feeling tired, nausea, extra gas (farts), loss of appetite. History of eating fish that was NOT cooked.	May have weight loss. Tapeworm may be seen in bowel movement: <ul style="list-style-type: none"> • Looks like a whitish yellow ribbon, or • Is in little flat, white sections. Hemoglobin may be low (tapeworm may cause anemia).

4. Plan

4.1 Plan: Anus Problem

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Patient education should include the following:

- Give information in chart 4.1.

Chart 4.1

Patient Education FOR MOST ANUS PROBLEMS

1. *If the skin is broken or swollen*, take a warm sitz bath 3-4 times a day:
 - Sit in warm water (bathtub or basin).
2. Prevent constipation. Keep your bowel movements regular and soft:
 - Drink lots of liquids. Every day an adult should drink about 6-8 glasses of water or other liquid.
 - Eat a high fiber diet (p.446).

- If needed, give additional patient education for constipation as in chart 4.2.

[3] Medicine may include the following:

- If needed, to keep bowel movement soft and less painful, give medicine such as:

PSYLLIUM HYDROPHILIC MUCILLOID (Metamucil)® powder.

- Mix and give dose as directed in a drug reference.
- It may take 2-3 days for the medicine to help.

[4] Other plan may include the following:

- *If abscess*, this patient will probably have to go to the hospital to have the abscess drained. Now go to p.322. Treat the same as for any abscess.
- *If anal fissure* is very painful, your referral doctor may suggest medicine (suppositories).
- *If hemorrhoids* are very large, swollen, or painful:
 - ☐ it may help patient to rest in bed for 2-3 days.
 - ☐ your referral doctor may suggest:
 - medicine (suppositories) for pain and swelling.
 - other treatment.
- *If discharge from anus*, examine patient for gonorrhea. Now go to p.133.
- *If other sore, rash, or growth*, consider assessments for similar problems on genitals (p.129).
- *If itching* in anus area is chief complaint, your referral doctor may suggest:
 - ☐ Scotch® tape test to check for pinworm eggs (Plan 4.6).
 - ☐ blood sugar (glucose) test to check for diabetes.
 - ☐ HYDROCORTISONE or other steroid medicine for patient to apply if skin is NOT infected.
 - ☐ medicine (suppositories).

[5] Recheck as follows:

- Recheck in one week, sooner if the problem is severe or if patient is feeling worse.
- Examine:
 - ☐ anus.
 - ☐ bowel movement for hidden blood (p.84).
- *If patient is NOT getting better*, depending on what the problem is, your referral doctor may suggest:
 - ☐ X-rays or other tests to check for tumor (cancer) or other serious bowel problems.
 - ☐ surgery.

4.2 Plan: Constipation

[1] Report to your referral doctor unless he has signed for you to treat constipation without contacting him.

- *Always report if:*
 - ☐ constipation has lasted more than a few days or is a recurrent problem that you have not reported recently.
 - ☐ patient has been taking medicine regularly. Some medicines cause constipation.
 - ☐ patient looks sick.
 - ☐ patient has weight loss.
 - ☐ on rectal exam you found lots of very hard stool stuck there (fecal impaction).
 - ☐ any lab test above (step 2.9) is abnormal.
- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.2.

[3] Medicine may include the following:

- If needed, to produce bulk and soften the stool, give medicine such as:

PSYLLIUM HYDROPHILIC MUCILLOID (Metamucil)® powder.

- Mix and give dose as directed in a drug reference.
- It may take 2-3 days for the medicine to help.

- Do NOT give other laxative medicine unless your referral doctor tells you to.

[4] If patient also has an anus problem that is painful, he may be constipated from holding in stool to avoid pain. Treat the anus problem as in Plan 4.1.

Chart 4.2

Patient Education CONSTIPATION

Keep your bowel movements regular and soft. You should NOT have to strain/push down very much.

1. You do NOT have to have a bowel movement every day. What is normal is different for each person, but bowel movements should come regularly.

- It helps to set aside a time (usually after a meal) when you can sit and have a bowel movement, even if you do not feel like you have to.
2. Drink lots of liquids. Every day an adult should drink about 6-8 glasses of water or other liquid.
 3. Eat a high fiber diet (p.446).
 4. Exercise regularly.
 - Walk or get other exercise for 20 minutes, at least 3 times a week.
 - ☐ do NOT get short of breath.
 - If you are age 40 or more or have other health problems, consult your doctor before starting.
 5. Avoid taking medicine for constipation (laxatives) unless prescribed. Many kinds of laxatives can make the problem worse by making bowel muscles depend on drugs.

[5] Recheck as follows:

- Recheck in two days, sooner if you think patient is sick or if patient is feeling worse.
- *If patient is NOT getting better*, constipation may be a sign of a more serious problem. Your referral doctor may suggest other exam, tests, medicine.

4.3 Plan: Severe Digestive System Bleeding

[1] **Emergency care** should include the following:

- First check ABC's: Airway, Breathing, Circulation.

- Have patient rest, lying down, in position that feels best.
- Check vital signs: P, R, BP.
 - ☐ if shock (weak, fast pulse; low BP), now go to p.7.
 - ☐ check P & BP with patient lying down, then sitting up.
 - ☐ treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.

[2] Get history and examine

quickly as for other digestive system problems. Include the following:

- ☐ *if vomiting*, was there blood the first time patient vomited, or did bleeding start only after patient vomited for a while? (The strain of vomiting can cause a tear/rip in stomach).
- ☐ *if bowel movement looks black like tar and NO blood is seen*, has patient been eating a lot of dark meat, such as seal or whale meat? *If so*, as you get history and examine, consider this meat as the cause of black bowel movements, instead of digestive system bleeding.
- ☐ *if diarrhea*, what does the diarrhea look like? *If there is pus or lots of mucus*, this is probably diarrhea caused by bacteria. Go to p.72 and consider that the assessment is "serious diarrhea."
- ☐ recent history of nosebleed? Patients often swallow this blood and then vomit or have black bowel movement.
- Lab test: Look at the bloody vomit or bowel movement, if possible:
 - ☐ how much blood is there?
 - ☐ what color is it?

[3] **Report NOW** to your referral doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.
- Have someone arrange for transport to hospital if patient is vomiting blood or has lots of blood in bowel movement.

[4] **Special care** should include the following:

- *Medicine*. Give an antacid, only if vomiting has stopped:

Give Mylanta II®, Amphojel®, or other antacid.

- **Dose: 1-2 teaspoons or as directed.**
- Repeat every 1-2 hours.

- Do not give anything else by mouth except sips of water or ice chips if patient is thirsty.
- Do NOT insert a stomach tube. It may make some kinds of bleeding worse, and it probably will not help.
- Recheck P, BP every hour, more often if patient is very sick or getting worse.

[5] **If patient continues to bleed**, do the following:

- Start an IV (p.427).
 - ☐ run I.V. at "maintenance rate" (p.434) unless patient goes into shock (weak, fast pulse; low BP; p.7).
- Recheck P, BP every 15 minutes.
- Recheck hemoglobin every 2-4 hours.
- The doctor will want to decide how much blood the patient is losing. Keep a record of patient's vomit or bowel movements:
 - ☐ how often?
 - ☐ how much is there?
 - ☐ what does it look like?
- Transport patient to hospital as soon as possible.

4.4 Plan: "Heartburn" or Indigestion or Nausea Without Vomiting/Abdominal Pain

[1] **Report** to your referral doctor unless he has signed for you to treat this problem without contacting him.

- *Always report if:*
 - ☐ patient is less than age 2 (This is probably the wrong assessment).
 - ☐ there is any chance this could be a heart attack (p.20).

- ☐ the problem has lasted more than a few days or is a recurrent problem that you have not reported recently.
- ☐ patient has trouble swallowing.
- ☐ patient has been taking medicine regularly. Some medicines cause these problems.
- ☐ patient looks very sick.
- ☐ patient has weight loss.
- ☐ any lab test above (step 2.9) is abnormal.
- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.4

[3] Medicine. Give an antacid:

Give Mylanta II®, Amphojel®, or other antacid.

- **Dose: 1-2 teaspoons or as directed.**
- Patient may repeat every 30-60 minutes if this seems to help.
- *When feeling better*, for prevention of this problem, patient may find it helpful to take the medicine 1 hour and 3 hours after meals, at bedtime, and other times if needed.

[4] Recheck only if needed. Tell patient to return to clinic in 2-3 days if NOT feeling better, sooner if feeling worse.

- *If patient is NOT getting better*, this problem may be a sign of a more serious problem. Your referral doctor may suggest other plan such as tests, medicine, weight loss.

4.5 Plan: Jaundice

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.
- Arrange for transport to hospital if you can NOT reach a doctor and patient looks very sick or has signs of bleeding too easily such as:
 - ☐ nose bleeds or heavy vaginal bleeding.

- ☐ gums that bleed when brushing teeth or if small cut in skin bleeds for a long time.
- ☐ lots of bruises.

Chart 4.4

Patient Education “HEARTBURN,” INDIGESTION, OR NAUSEA WITHOUT VOMITING/ABDOMINAL PAIN

1. It may help to rest your stomach for the first 2-4 hours.
 - It is OK to take antacid medicine.
 - When you begin to eat, have clear liquids, and slowly return to your usual diet.
2. Avoid things that irritate the stomach.
 - Avoid alcohol.
 - Avoid caffeine: Coffee, regular tea, hot chocolate, cola drinks (p.446).
 - Avoid foods that have a lot of acid, such as tomato sauce, orange juice.
 - Avoid spicy foods.
 - Avoid ASPIRIN or other arthritis medicine, unless your doctor says it is OK.
3. NO SMOKING OR CHEWING TOBACCO! Tobacco makes stomach acid problems worse.
4. Avoid tight clothing.
5. *If you get this problem after large meals:*
 - Eat smaller amounts.
 - Chew your food well and eat more slowly.
6. *If you get heartburn when you lie down or bend over*, avoid lying down right after eating.
7. *If you get heartburn at night*, it may help to raise up the head of your bed 4-6 inches.
8. If you are overweight, losing weight may help a lot. Ask your CHA/P for diet advice.
9. Prevent problems such as bleeding or scarring of the digestive system: See your CHA/P if this problem is recurrent.

[2] Patient education should include information in chart 4.5.

Chart 4.5

Patient Education JAUNDICE

1. Jaundice is a sign of liver problems. There are many possible causes, such as:
 - Viral hepatitis, an infection caused by a virus, spread from an infected person by:
 - ☐ sexual contact.
 - ☐ contaminated food or water.
 - ☐ blood transfusions.
 - ☐ contaminated needles.
 - ☐ close contact with a person who has hepatitis.
 - Drugs or chemicals, including heavy alcohol use.
 - Problems that stop the flow of bile from the gallbladder.
 - In the newborn, causes include infection and immature liver.
2. Do NOT drink alcohol. It will cause more liver damage.
3. Diet: You should eat a regular diet.
 - A low protein diet is only given if a patient has liver failure with changes in his mental state.
4. Drink lots of liquids, unless you have edema (swelling of skin).
 - Every day an adult should drink about 6-8 glasses of water or other liquid.

[3] If possible viral hepatitis:

- Draw blood (red top tube).
 - ☐ be very careful. Do NOT stick yourself or get patient's blood into a cut or opening in your skin. Dispose of needles and syringes in their proper container.
 - ☐ separate serum and send to hospital for hepatitis test.
- Patient education should include information about prevention. Depending on the type of hepatitis, the virus can be in body fluids (saliva, blood, semen) and in urine

or bowel movement. Until the doctor tells you differently:

- ☐ patient and others at home should wash hands every time they go to the bathroom.
- ☐ patient should not share dishes, eating utensils, or food with others.
- ☐ patient should not have sexual contact.

[4] Other plan depends on your doctor's assessment and may include the following:

- *If patient has hepatitis A:*
 - ☐ others at home (and day care center contacts) should have a shot of gamma globulin IM (into buttocks or thigh).
 - ☐ your sanitarian should be notified.
- *If patient has hepatitis B:*
 - ☐ others at home and sex partners should have a blood test for hepatitis B. *If the test is negative*, they should have immunization with hepatitis B vaccine (Heptavax®, p.195).
 - ☐ sex partners may also need a shot of hepatitis B immune globulin (H-BIG) given IM (into buttocks or thigh).
- If patient has other cause of jaundice (including gallstones or a tumor), the doctor will probably want to examine patient and do other tests.

[5] Recheck as follows:

- Recheck once a day while patient is jaundiced, more often if patient is very sick.
- Examine:
 - ☐ general appearance.
 - ☐ vital signs.

4.6 Plan: Pinworms

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Lab test. Do Scotch® tape test to check for pinworm eggs. This test should be done the next morning, before patient wipes or washes the anus area. Teach patient or parents how to do this test, or have patient

come to see you the next morning:

- Get a two-inch long piece of *clear* cellophane tape such as Scotch® tape.
- Stick the tape to the skin right near the anus, to pick up some of the microscopic worm eggs.
- Stick the tape onto a glass slide (microscope slide). *If no slide*, stick the tape onto another piece of tape, with the sticky sides together.
- Label the tape and lab slip with patient's name and birth date.
- Mail it to your referral hospital lab. They can find eggs by looking through the tape with a microscope.

[3] Patient education for pinworms should include information in chart 4.6.

Chart 4.6

Patient Education PINWORMS

1. Pinworms live in the rectum. They *may* be seen at night, while a person is sleeping, when they come out of the rectum to lay eggs on skin near the anus.
2. Pinworms are spread to another person if eggs get into that other person's mouth. Children get these worms most easily and may spread them to the whole family.
3. Avoid spreading the eggs to other people and to your own mouth. Do the following:
 - Cut fingernails short.
 - Avoid scratching your anus area.
 - Wash your hands before eating or touching food.
 - Wash hands well after going to the bathroom.
 - Wash clothing and sheets well to get rid of any worm eggs that are on them.

[4] Other plan depends on your referral doctor's assessment:

- The doctor may wait for the lab test to show pinworm eggs.
- *If assessment is pinworms*, the doctor will send medicine for patient and for others at home.

- ☐ be ready to give the doctor names and ages of others at home. Tell him if anyone might be pregnant. Treatment may be different for child less than 2 years or for pregnant woman.

[5] Recheck only if needed. Tell patient to return to clinic if having problems.

4.7 Plan: Tapeworm

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Lab test should include exam at hospital lab of either the worm or bowel movement:

- Ask patient to bring in a piece of the worm, if possible.
 - ☐ pieces of the worm may be seen in bowel movement. Sometimes pieces are found in underwear or bedding.
 - ☐ keep the worm sample moist. Place it in a container with FORMALIN (preferred), NORMAL SALINE (0.9% SODIUM CHLORIDE), or contact lens solution.
- If patient can NOT get a piece of the worm, tell him to bring in a bowel movement sample in a clean jar. The lab can look for eggs in the bowel movement.
- Label the container and lab slip with patient's name and birth date.
- Transport the specimen to your referral hospital lab.
 - ☐ it must get to the lab for examination within 24 hours, unless the worm is put in FORMALIN.

[3] Patient education for tapeworm should include information in chart 4.7.

[4] Other plan depends on your referral doctor's assessment.

- *If lab test shows tapeworm*, the doctor will:
 - ☐ send medicine for the patient.
 - ☐ probably need to report patient to the state.

Chart 4.7

Patient Education TAPEWORM

1. A tapeworm usually lives in the small bowel. Without treatment, it may live for as long as 20 years.
2. Tapeworms are usually spread by eating fish that is NOT cooked.
 - They are NOT spread from person to person or by eating fish that has been canned correctly.
3. Prevent tapeworm infection. Do one of the following:
 - Cook fish until all parts are cooked.
 - ☐ meat should reach a temperature of 133°F for 5 minutes.
 - ☐ the cooked meat should flake easily with a fork.
 - Freeze fish to 0°F for 24 hours or to 14°F for 72 hours.
 - Prepare the fish in a brine (salty) solution. Ask your sanitarian for suggestions. A brine solution should kill the tapeworm if:
 - ☐ the solution is salty enough.
 - ☐ the meat is thin enough.
 - ☐ the meat sits in the solution for enough time.

4.8 Plan: Other or Unknown Digestive System Problems

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Consider other assessments that you can treat:

- *If patient has trouble swallowing:*
 - ☐ consider that the assessment may be "botulism" (p.281).
 - ☐ *if he can drink liquids,* encourage him to drink nourishing liquids, such as soups, milk, juices.
 - ☐ *if he can NOT drink liquids,* transport is delayed, and he needs fluid to prevent

dehydration, start an I.V. and run it at "maintenance rate" (p.434).

- With other problems of the digestive system, patient often has some:
 - ☐ abdominal pain (p.63).
 - ☐ vomiting or diarrhea (p.70).

CARRIER OF HEPATITIS B VIRUS: FOLLOW-UP

Hepatitis B carrier = a person who has hepatitis B in the blood for at least 6 months.

[1] Patient education is important for prevention of other problems.

- Get patient education handouts from your regional health corporation or other sources.
- Include information in chart [1].

[2] Do blood test every 6 months for AFP:

- Draw blood (red top tube).
 - ☐ be very careful. Do NOT stick yourself or get patient's blood into a cut or opening in your skin. Dispose of needles and syringes in their proper container.
- Separate serum and send to hospital for AFP test. Write "Hepatitis B carrier" on the lab slip.

[3] Other plan may include the following:

- Check to see that others at home and sex partners have had a blood test for hepatitis B. *If the test is negative,* they should be immunized with hepatitis B vaccine (p.195).
- Check to see that this chronic problem is written on patient's problem list.

Chart [1]

Patient Education CARRIER OF HEPATITIS B VIRUS: FOLLOW-UP

1. As a hepatitis B carrier:
 - You may have this infection all of your life.
 - You have a greater chance of developing liver cancer or cirrhosis.
2. It is important for you to have the alpha-feto protein (AFP) blood test every 6 months.
 - This test can often find liver cancer in a hepatitis B carrier while the cancer is very small and can still be cured with surgery.
3. Prevent spreading hepatitis B:
 - Be sure that others at home and sex partners begin the immunizations and have a test for hepatitis B. *If the test is negative,* they should complete the immunizations for protection.
 - *If a sex partner is NOT immune* to hepatitis B, use a condom.
 - Avoid spreading your blood to others:
 - ☐ do NOT share things that may get blood on them, such as razors or toothbrushes.
 - ☐ avoid pre-chewing food for babies or sharing chewing gum.
 - ☐ cover any cut or sore.
 - ☐ if you get blood on something, wash it off with detergent or bleach.
 - ☐ women should carefully dispose of menstrual pads or tampons.
 - Tell every health care provider who is going to treat you that you are a hepatitis B carrier.
4. Casual contact will not spread hepatitis B. For example, it is OK to:
 - Eat with others or have friends over to your home.
 - Share the same toilet.
 - Kiss.

DIGESTIVE SYSTEM: SKILLS

EXAMINING A BOWEL MOVEMENT

It may be helpful for you to examine a patient's bowel movement (stool specimen) if patient has a change in his bowel movements, such as:

- Constipation.
- Diarrhea.
- Blood in bowel movement.
- Change in size, shape, color, or number per day.

1. Have Patient Collect a Sample

1.1 Give patient a container to catch the sample bowel movement in.

1.2 Tell patient that:

- The sample should NOT be mixed with urine.
- He should keep it cool. Keep it away from heat.
- He should bring the sample to clinic as soon as possible.
 - ☐ it should be examined soon after it is collected.

2. Examine the Bowel Movement

2.1 Appearance:

- Look at the center of the bowel movement, too.
 - ☐ if needed, use a tongue blade to break apart bowel movement.
- **Normal:**
 - ☐ Soft, formed, normal appearance.
 - ☐ If breast fed infant, bowel movement is soft and mushy (not watery) and clings to diaper.
- **Abnormal** includes:
 - ☐ hard, marble-like bowel movement, from constipation.

- ☐ watery bowel movement; in an infant look for a watery ring around bowel movement in diaper.
- ☐ grey color (usually means that no bile is getting into intestine).
- ☐ black bowel movement, like tar (usually caused by severe bleeding in upper part of digestive system).
- ☐ streaks of blood coating the bowel movement (usually caused by an anus problem).
- ☐ blood seen inside the bowel movement (usually caused by bleeding in lower part of digestive system).
- ☐ mucus or pus seen.
- ☐ worms seen.

2.2 Also, check for hidden blood, as follows.

LAB TEST: BOWEL MOVEMENT FOR HIDDEN BLOOD

This test (guaiac test; Hemoccult®, Hema-Chek®, others) is a screening test for blood.

- It is used for:
 - ☐ finding "hidden" (occult) blood, blood that you can not see.
 - ☐ health surveillance and other screening, to help make the assessment of digestive system problems such as:
 - bleeding ulcer.
 - intestinal cancer.
- Certain things can cause false negative or false positive test results (as in chart 4.1).

1. Getting Started

1.1 Read and follow directions on the package. Different tests have different directions. If needed, use the following guidelines, which are mainly for Hemoccult® and Hema-Chek®.

1.2 Check for expiration date on all lab materials:

- The cardboard container in which bowel movement sample will be spread.
- The bottle of developing solution.

1.3 Look at the test paper. If it has turned blue or blue-green, do NOT use it.

2. Spread Small Sample on Test Paper

2.1 If you have just done a rectal exam and have stool on your glove:

- Spread/smear a sample from your glove *thinly* onto the test paper.
 - ☐ use a very small amount of stool.

2.2 If patient has brought a bowel movement to you for testing:

- Use the applicator stick.
- Take two samples from inside the bowel movement, at two *different* places.
- Spread/smear samples *thinly* onto the test paper.
 - ☐ use a very small amount of each sample.

3. Test the Sample

3.1 Read directions carefully.

- You will need to look at the test for either 30 or 60 seconds, depending on the test you use.

3.2 Apply developing solution as directed, and read the results within the proper time:

- Positive: Any trace of blue color.
- Negative: No blue color.

3.3 Wash your hands.

4. Other Information

4.1 In most cases, patient can collect these samples at home. If so:

- Patient can store a sample for up to 15 days before you test it.
- Give information in chart 4.1.

4.2 If test is positive, always plan to report to your referral doctor. He may suggest other exam, tests.

4.3 Store test materials at room temperature in a dry, dark place. Do not refrigerate.

Chart 4.1

Patient Education COLLECTING A BOWEL MOVEMENT SAMPLE FOR HIDDEN BLOOD

1. Avoid taking VITAMIN C (ASCORBIC ACID) medicine. This may cause a false negative test result (the test may read negative even though blood is there).
2. Avoid collecting a sample when you are bleeding from the vagina or from an anus problem such as hemorrhoids.
3. If you had a positive test and you are rechecking:
 - Try to prevent a false positive test result (caused by something that is NOT a problem). Beginning two days before collecting the samples:
 - ☐ avoid red or black meat, such as caribou, beef, moose, seal, walrus. Fish is OK.
 - ☐ avoid iron medicine.
 - ☐ avoid ASPIRIN or other arthritis medicine, unless your doctor says it is OK.
 - ☐ eat a high fiber diet (p.446).
 - The doctor may want you to take three containers home with you. If so, when you are ready to collect the samples, take samples from your *next three* bowel movements.
4. Catch a bowel movement on a napkin, paper towel, or a large piece of tissue.
 - If the bowel movement is loose or watery, you may want to use a paper plate, a piece of plastic wrap, or small plastic container.
5. Spread small samples on the test paper:
 - Use the applicator stick.
 - Take two samples from inside the bowel movement, at two *different* places.
 - Spread/smear samples *thinly* onto the test paper.
 - ☐ use a very small amount of each sample.

6. Close the cover, and wash your hands. Before you return the sample to the clinic for testing:
 - Store it in a dry, dark place. Keep it away from heat, but do not refrigerate.
 - Check to be sure that you wrote down your name and the date you collected the sample.

INSERTING & USING A STOMACH TUBE

Stomach tube (NG or nasogastric tube):

- A tube that is passed through the nose or mouth, into the stomach.
- Usually inserted to do one of the following:
 - ☐ irrigate the stomach, as in certain cases of poisoning.
 - ☐ remove fluid and gas from upper part of digestive system.
 - ☐ give food or medicine to certain patients.

STOMACH TUBE INSERTION Equipment/supplies needed:

Stomach tube:

- For newborn, size #8 Fr.
- For child, size #12 Fr.
- For adult, size #16 Fr.

Adhesive tape

Ice, if available

Otoscope or flashlight

Lubricating jelly (K-Y®)

Cup of water and straw (for patient)

Basin, to catch vomit or drainage

Large syringe, 50-70 cc. (such as

Toomey syringe)

Stethoscope

If irrigating: additional water

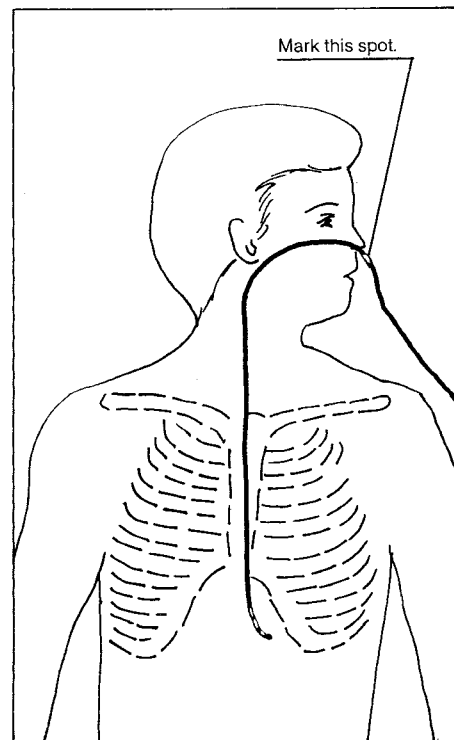
1. Get the Stomach Tube Ready

1.1 Wash your hands.

1.2 Select the size stomach tube you need for patient's age.

1.3 Decide how much of the tube you will insert:

- Hold the tip (small end) of tube at stomach area.
- Loosely measure the length of tube from stomach area, up to earlobe, and to tip of nose.
- At nose, mark the tube:
 - ☐ place small piece of adhesive tape around tube at correct spot.



Decide how much of the tube you will insert.

1.4 Curl the end of tube that will go into nose:

- Roll the end of tube tightly around two fingers, into a circle. This should curl the end a little bit.
- If you can not get the end to curl, it will help to place tube in ice for a few minutes.
- Curling the end of tube will help to pass tube more easily from nose into throat.

2. Get the Patient Ready

2.1 Explain to patient what you will do.

- Reassure patient.

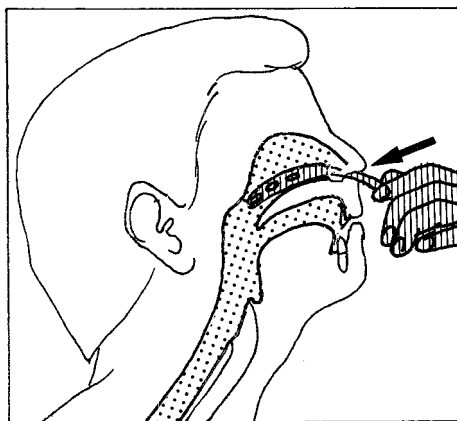
- Tell him that:
 - ☐ he will feel like gagging until the tube passes a certain area.
 - ☐ he will get used to the tube being there.
 - ☐ if he feels like gagging, he should:
 - pant like a puppy.
 - swallow.

2.2 Remove dentures and any other foreign body in mouth.

2.3 Position (have a helper restrain patient if needed):

- If patient is awake and can swallow, he should sit up and lean forward.
- If patient is unconscious or can NOT swallow water without choking, a stomach tube is NOT recommended. However, if a stomach tube is ordered, you should help to prevent patient from choking on vomit:
 - ☐ lay patient on left side.

2.4 Look into nose with otoscope or flashlight to check for anything blocking the way.



Gently pass tube along floor of nose.

3.4 Pass tube into throat and down into stomach.

- When tube is in throat, patient will feel it or you can see it with flashlight. As you advance tube, the following may help. Tell patient to:
 - ☐ drink small sips of water as fast as he can, without stopping.
 - ☐ swallow often.
- Pass tube until you reach the spot that you marked earlier.
- If patient feels like gagging, remind patient to:
 - ☐ pant like a puppy.
 - ☐ swallow.
- If gagging continues, look in the mouth. If tube is coiled in mouth or throat:
 - ☐ pull tube back until just the tip of tube is seen in throat.
 - ☐ advance the tube again.
- If patient has severe coughing or trouble breathing, tube is probably in windpipe:
 - ☐ pull tube back until tip is in throat.
 - ☐ reassure patient. Remind him to swallow as you pass the tube.
 - ☐ advance the tube again.

4. Check to Be Sure Tube Is In Stomach

There are several ways to do this. One of the following should be enough:

- 4.1** Use a large syringe to aspirate (pull back) some stomach contents.
- 4.2** Check with stethoscope while injecting air:
 - Place your stethoscope on the stomach area.

- Listen as you inject 20-25 cc. air with large syringe.
- You should hear a gurgling sound, like bowel sounds, if tube is in stomach.
- If you do NOT hear a gurgling sound, do as much of the following as needed:
 - ☐ check one more time. Listen as you inject some more air.
 - ☐ advance the tube a few inches and check again.
 - ☐ pull tube back until tip is in throat, and start over.

4.3 If you think tube may be in windpipe, place the large end of tube in glass of water.

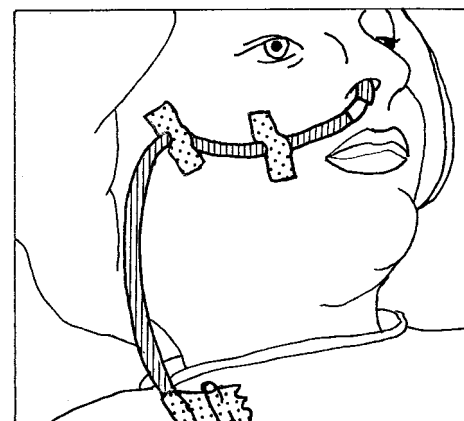
- If air bubbles out all of the time while patient is breathing out, tube is probably in windpipe.
 - ☐ pull tube back until tip is in throat.
 - ☐ have patient bend neck forward a little bit, chin toward chest.
 - ☐ advance the tube again.

5. Tape Tube in Place

When tube is in stomach, tape it in place, so it will not move or come out.

5.1 Dry the skin with tissue.

5.2 Tape tube so it enters the nose loosely. Avoid pressing tube against nostril.



3. Insert the Stomach Tube

3.1 Lubricate well the tip and first few inches of stomach tube.

3.2 Have patient tilt head back.

- For most patients, plan to insert tube through nose.
- If infant or very young child (nose opening too small), plan to insert tube through mouth. Now go to 3.4.

3.3 Gently insert tube into nose, and pass tube along floor of nose.

- Curve of tube should curve down, so tube will pass more easily down into throat.
- Tube should be pushed straight back, NOT up.
- This will make patient feel uncomfortable, but he should NOT feel much pain or have bleeding.

6. If Irrigating the Stomach

6.1 Position: Patient should lie on left side. This position will help fluid to drain out and will help to prevent patient from choking on vomit.

6.2 Use large syringe to inject liquid.

- Usually water is used.
- Amount to inject at one time depends on size of patient. In adult, inject 120 ml. (½ cup; 4 oz.).

6.3 Let fluid drain back out on its own.

- You should get out about the same amount that you put in.
- Gravity will help. Let tube hang lower than patient. Let it drain into basin.
- Look to see what you get out.
- *If fluid does NOT drain back out, do as much of the following as needed:*
 - ☐ inject the same amount of liquid one more time. Do NOT keep injecting liquid if you do not get much back.
 - ☐ aspirate (pull back fluid) gently with large syringe. Do NOT pull back hard on a syringe (tube may suck up against stomach wall and nothing will come out).
 - ☐ readjust the tube. Pull tube back about one inch or push it in another inch or two.

6.4 Irrigate.

- Repeat injecting liquid and letting it drain back out.
- Usually patient's stomach is irrigated with 2-3 quarts of water or until what drains out is clear.

remove it. This will prevent fluid from leaking out, which patient could breathe in or choke on.

8.3 Tell patient what you are doing, and remove tube fairly quickly.

7. If NOT Irrigating the Stomach

You should either leave the tube open or close it off, depending on what the tube is being used for:

7.1 If for removing fluid and gas from upper part of digestive system:

- Let tube hang down.
- Tape a plastic bag or rubber glove on end of tube, to catch stomach contents that may drain out.

7.2 If for other reason, such as for giving food or medicine:

- When NOT giving food or medicine, to avoid drainage, it is good to plug the end of tube or to clamp it closed.

8. To Remove a Stomach Tube

8.1 Remove tape from skin.

8.2 Pinch tube closed before you

EAR PROBLEMS

Begin here if patient has chief complaint related to ear problems, including:

- Ear injury.
- Earache.
- Draining ear.
- Possible ear infection.
- Hearing loss.

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** Does patient have other ear problems, such as:
- Earache or pain?
 - ☐ if young child: pulling or rubbing ears?
 - Draining ear?
 - Burning or itching in the ear canal?
 - Hearing loss or change in hearing?
 - ☐ feeling that ears are "full," plugged up?
 - Ringing/buzzing in ears (tinnitus)?
 - Feeling dizzy? If so, what exactly does the dizziness feel like? Ask patient to describe the feeling in his own words.
- [2]** What has patient been doing to treat the problem?
- Has he put anything in the ears, including a Q-tip® or seal oil?

1.2 Past Health History

- [1]** Illnesses?
- [2]** Operations: Ear surgery?
- [3]** Allergies?
- [4]** Medicines:
- What medicines is patient taking now, including antibiotics?

1.3 Other History

- [1]** Does patient have any other complaints, such as:
- Feeling sick, weak, tired?
 - ☐ if a baby: fussy?

- Fever or chills?
- Stuffy nose? Runny nose?
- Sore throat?
- Vomiting or diarrhea?

2. Examine

2.1 General appearance.

2.2 Vital signs: T, P, R, B.P.

2.3 Ears. Examine the "good" ear first:

[1] Outer ear.

- Appearance.
- Feel for lymph nodes. If felt, note size, tenderness, and if movable.
- Press on the hard bone behind the ear (mastoid bone) to check for tenderness.

[2] Ear canal.

[3] Eardrum.

- *If you can NOT see eardrum because of too much wax, see Plan 4.6, "Object in Ear Canal."*
- Color.
- Position (Is it normal, retracted, or bulging?).
- Is it clear or cloudy?
- Other appearance. Describe anything that is abnormal.
 - ☐ refer to the eardrum as face of a clock if this helps you.
 - ☐ it may also help to make a drawing.
- Is it movable?
 - ☐ watch the eardrum as you blow and suck gentle puffs of air through the tubing.

[4] Hearing:

- If infant or young child, check by making a soft sound behind child's head.
- If older child or adult, check with watch ticking or by whispering.

2.4 Nose.

2.5 Throat.

2.6 Chest:

- Breath sounds.

2.7 Lab test:

- Hemoglobin or hematocrit if due for health surveillance or if otitis media is recurrent.

3. Assessment

3.1 Your assessment should be: **Ear problem.**

3.2 Make a more specific assessment. Use chart 3.2.

3.3 Include in your assessment that the ear problem is one of the following:

- **Ear injury** (Plan 4.1).
- **Acute otitis media** (Plan 4.2).
- **Chronic otitis media** (Plan 4.3).
- **Serous otitis media** (Plan 4.4).
- **Skin problem on outer ear** (Assessment: p.318, "Skin Problems").
- **Ear canal infection** (Plan 4.5).
- **Object in ear canal (wax, insect, or other)** (Plan 4.6).
- **Hearing loss** (deafness or partial deafness; Plan 4.7).
- **Other or unknown ear problem** (Plan 4.8).

4. Plan

4.1 Plan: Ear Injury

[1] **Report** to your referral doctor, unless this is a minor injury.

- Report NOW if patient has:
 - ☐ severe bruise or head injury.
 - ☐ swelling of the outer ear (hematoma). Patient may need blood drained out and a pressure dressing put on, to prevent scarring.
 - ☐ hearing loss.
- While you are waiting to report, follow this plan.

[2] **If hole in eardrum** (puncture, traumatic perforation)

- *If it has been bleeding*, do the following:
 - ☐ give antibiotic eardrops:

Give

POLYMXIN B-NEOMYCIN-HYDROCORTISONE

(Cortisporin®) ear drops.

- **Dose: 5 drops into ear canal, four times a day for 7 days.**
- Patient should leave drops in ear with head tilted to side for 5-10 minutes.

Chart 3.2

Ear Problems: Some Assessments and Typical Findings

Assessment	History	Exam
ACUTE OTITIS MEDIA [OM, middle ear infection] (Plan 4.2)	Usually a child. Earache, in one or both ears, often after patient has had headcold for few days. <i>If young child:</i> Pulling or rubbing ear, or fussiness. May have draining ear. Trouble hearing or feeling that ears are "full," plugged up.	May have fever. Ear canal may have drainage (pus), from hole in eardrum. Eardrum: <ul style="list-style-type: none"> • Red, at least in the upper third of eardrum. • May be bulging. • Cloudy. • Does NOT move normally.
CHRONIC OTITIS MEDIA [COM] (Plan 4.3)	Usually older child or adult. May have draining ear or trouble hearing. History of hole in eardrum, ear infections, and draining ears, often with every cold.	May have low fever. Ear canal may have drainage (pus), from hole in eardrum. Eardrum has hole (perforation) that does NOT heal. May have hearing loss.
SEROUS OTITIS MEDIA [SOM, middle ear effusion, fluid in middle ear, "glue ear"] (Plan 4.4)	May have earache. Trouble hearing. Feeling that ears are "full," plugged up.	No fever. Eardrum: <ul style="list-style-type: none"> • May be yellowish (amber) color; dull. • Retracted. • May have bubbles or fluid level seen behind eardrum. • Does NOT move normally; may move only when air is sucked out.
EAR CANAL INFECTION [otitis externa, external otitis] (Plan 4.5)	Usually older child or adult. Pain, burning, or itching in ear canal. May have draining ear. Often history of dermatitis (eczema), dandruff (seborrheic dermatitis), or swimming.	Usually no fever. Pulling on outer ear is painful. Ear canal: <ul style="list-style-type: none"> • Inflamed (tender, red, swollen). • May have some drainage. • May have abscess (boil): a very tender lump; in center, becomes soft, white or yellow (from pus inside); may drain pus. Eardrum: Normal.

- ☐ recheck in 3-7 days.
- *For other patients:*
 - ☐ follow the plan for chronic otitis media. Now go to Plan 4.3.
 - ☐ plan to recheck once a month for 3 months.

[3] Other ear injuries usually heal well. Treat as you would on another part of the body.

[4] Patient education should include information in chart 4.8, "General Care of an Ear Problem."

4.2 Plan: Acute Otitis Media

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- *Always report if:*
 - ☐ age less than 6 months.

- ☐ patient has *painful draining ear*. This may be a serious bone infection (mastoiditis).
- ☐ ear infection has recurred within one month.
- ☐ high fever (more than 104°).
- While you are waiting to report, follow this plan.

- Butterfly® type of IV, with all but 2-3 cm. of the tubing cut off.
- ☐ a twist of cotton or tissue, which can "wick" up the moisture.
- Give antibiotic eardrops:

Give
POLYMXIN B-NEOMYCIN-HYDROCORTISONE
(Cortisporin®) ear drops.

- **Dose: 5 drops into ear canal, four times a day for 7 days.**
- Patient should leave drops in ear with head tilted to side for 5-10 minutes.

[2] Patient education should include information in chart 4.2.

Chart 4.2

**Patient Education
OTITIS MEDIA
(Middle Ear Infection)**

1. What happens in an ear infection?
 - There is a tube that leads from the middle ear to the throat. Sometimes, when a person gets a cold, this tube swells up and closes. Also, in infants this tube often does not work well.
 - Fluid builds up in the middle ear and gets infected.
 - The eardrum may break open and drain.
2. Ear infections are common in children. They must be treated correctly to help prevent other problems, such as chronic otitis media, permanent hearing loss, growth in ear (cholesteatoma), meningitis, and brain abscess.
3. Be sure to take antibiotic medicine as directed, for 10 full days, even if feeling OK.
4. Follow other guidelines in chart 4.8, "General Care of an Ear Problem."

[3] If draining ear, this means there is a hole in the eardrum.

- Remove drainage with one of the following:
 - ☐ suction:
 - Gomco suction machine.
 - a syringe attached to an IV catheter (with the needle removed), or attached to a

OR:

Give **AMPICILLIN**
(250 mg./5 ml. suspension or 250 mg. capsules).

- **Four times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	100mg. (2cc.)
15-24 lbs.	4-17 mo.	175 mg. (3½ cc.)
25-49 lbs.	18 mo. thru 6 yrs.	250 mg. (5 cc.)
50 lbs. or more	7-10 yrs.	250 mg. (1 capsule)

☐ if age 11 years or more:

Give **PENICILLIN V** (250 mg. tablets).

- **Dose: 250 mg. (1 tablet) four times a day for 10 days.**

☐ if allergic to PENICILLIN:

Give **ERYTHROMYCIN/SULFISOXAZOLE** (Pediazole®; 200/600 mg./5 ml. suspension).

- **Four times a day for 10 days:**

Give **AMOXICILLIN**
(250 mg./5 ml. suspension or 250 mg. capsules).

- **Three times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	75 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	125 mg. (2½ cc.)
25-34 lbs.	18 mo. thru 3 yrs.	175 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	250 mg. (5cc.)
50 lbs. or more	7-10 yrs.	250 mg. (1 capsule)

Weight	Approximate Age	Dose
Less than 11 lbs.	Less than 2 mo.	Do NOT give.
11-14 lbs.	2-3 mo.	60/180 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80/240mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140/440 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200/600 mg. (5 cc.)
50 lbs. or more	7 yrs. or more	300/900 mg. (7½ cc.)

OR:**Give TRIMETHOPRIM/
SULFAMETHOXAZOLE**

(Bactrim®, Septra®;
40/200 mg./5 ml. suspension or
80/400mg. tablets).

- If allergic to SULFA, do NOT give.
- **Two times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 11 lbs.	Less than 2 mo.	Do NOT give.
11-14 lbs.	2-3 mo.	20/100 mg. (2½ cc.)
15-24 lbs.	4-17 mo.	40/200 mg. (5 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	60/300 mg. (7½ cc.)
35-49 lbs.	4-6 yrs.	80/400 mg. (10 cc.)
50-89 lbs.	7-11 yrs.	80/400 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	160/800 mg. (2 tablets)

- *If needed for pain or fever:*
 - ☐ give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ if pain is severe and you can NOT reach a doctor, give ASPIRIN or ACETAMINOPHEN with CODEINE (p.416).
- NOT recommended: decongestants or antihistamines, such as Sudafed® or Actifed®. Reasons for this:
 - ☐ they do not help to treat otitis media.
 - ☐ patient may not take antibiotics correctly if he is taking other medicines.

[5] Recheck as follows:

- Recheck at these times:
 - ☐ once a day if patient looks sick or has draining ear.
 - ☐ in three days if patient still has fever.
 - ☐ in one month, sooner if patient is having problems.

- Examine:
 - ☐ vital signs: T.
 - ☐ ears.
- *If draining ear*, remove drainage and put in eardrops.
- *If patient still has fever or draining ear* after 3 days, report to your referral doctor. He may suggest switching antibiotics to one of the following:
 - ☐ **TRIMETHOPRIM/SULFAMETHOXAZOLE** (Bactrim®, Septra®), as listed above.
 - ☐ or, PENICILLIN shots:

I.M. shot of **PROCAINE
PENICILLIN** (Wycillin®), **every 24
hours for 7 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	150,000 Units
15-24 lbs.	4-17 mo.	300,000 Units
25-34 lbs.	18 mo. thru 3 yrs.	450,000 Units
35 lbs. or more	4 yrs. or more	600,000 Units

- *If child has recurrent otitis media* (4 times in 6 months, or 6 times in a year), report to your referral doctor. He may suggest that you:
 - ☐ give an antibiotic for prevention (prophylactic antibiotics):
SULFISOXAZOLE (Gantrisin®) 500 mg. once a day, or
AMOXICILLIN or
AMPICILLIN 250 mg. once a day
 - ☐ recheck patient once a month.
 - ☐ continue the antibiotic for 3-6 months.
- *If eardrum does NOT move normally in one month:*
 - ☐ recheck once a month for two more months.

- ☐ *if ear exam is still abnormal* in two more months:
 - report to your referral doctor. He may suggest hearing tests and referral to ear specialist.
 - put patient's name on list of patients to be seen on a field trip by doctor, PHN, and any ear specialist.
 - write this chronic problem on patient's problem list.

4.3 Plan: Chronic Otitis Media

[1] Report to your referral doctor unless he knows about this problem.

- If patient is age 6 or more, doctor will want to arrange for appointment with ear specialist.
- While you are waiting to report, follow this plan.

[2] If patient has developed draining ear, follow the plan for acute otitis media (Plan 4.2).

[3] Patient education should include information in chart 4.8, "General Care of an Ear Problem."

[4] Other plan should include the following:

- Check to see that:
 - ☐ patient's name is on list of patients to be seen on a field trip by doctor, PHN, and any ear specialist.
 - ☐ this chronic problem is written on patient's problem list.

[5] Recheck as follows:

- Recheck with regular health surveillance, sooner if patient is having problems.
- *If patient is scheduled to have ear surgery*, recheck about two weeks before patient is to leave the village. *If draining ear*, follow the plan for acute otitis media (Plan 4.2).

4.4 Plan: Serous Otitis Media

[1] Report to your referral doctor, unless he has signed for you to treat serous otitis media without contacting him.

- *Always report if patient looks sick.*
- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.4.

Chart 4.4

Patient Education SEROUS OTITIS MEDIA

1. What causes this problem?
 - There is a tube that leads from the middle ear to the throat. Sometimes, when a person gets a cold, this tube swells up and closes. Also, in infants this tube often does not work well.
 - Fluid builds up in the middle ear.
2. You can help to unplug your ears and correct the problem by letting air into the tube (eustachian tube). Do the following:
 - Hold your nose and swallow.
 - Close your mouth and blow.
 - ☐ let your cheeks puff out
 - ☐ it may help to try to yawn at the same time.
 - ☐ your ear will make a popping sound if it is working.
 - Repeat as needed. Many patients will need to do this 20 times a day.
3. Your ear may get infected:
 - Signs of an ear infection include earache, fever, or draining ear. A young child may get fussy and pull at the ear.
 - If you think you may have an ear infection, see your CHA/P during clinic hours.
4. Follow other guidelines in chart 4.8, "General Care of an Ear Problem."

[3] Medicine should include the following:

- *If patient has NOT taken antibiotics* for otitis media within the last 3 months, your referral doctor may suggest that you give an antibiotic as in the plan for acute otitis media (Plan 4.2).
- NOT recommended: decongestants or antihistamines, such as Sudafed® or Actifed®. They do not help to treat serous otitis media.

[4] Recheck as follows:

- Recheck once a month for two months.
- *If ear exam is still abnormal* in two months:
 - ☐ report to your referral doctor. He may suggest hearing tests and referral to ear specialist.
 - ☐ put patient's name on list of patients to be seen on a field trip by doctor, PHN, and any ear specialist.
 - ☐ write this chronic problem on patient's problem list.

4.5 Plan: Ear Canal Infection

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- *Always report if:*
 - ☐ patient looks sick.
 - ☐ patient has fever or enlarged, tender lymph nodes.
 - ☐ ear canal is very swollen. A special "wick" may be needed to get the medicine into the ear canal.
 - ☐ ear canal has a lot of drainage. This may be acute otitis media with a draining ear.
 - ☐ you think patient may have an abscess.
- While you are waiting to report, follow this plan.

[2] Clean the ear canal and remove drainage. Use one of the following:

- Suction:
 - ☐ Gomco suction machine.
 - ☐ a syringe attached to an IV catheter (with the needle removed), or attached to a Butterfly® type of IV, with all but 2-3 cm. of the tubing cut off.
- A twist of cotton or tissue, which can "wick" up the moisture.

[3] Medicine should include the following:

- Give antibiotic eardrops:

Give

POLYMXIN B-NEOMYCIN-HYDROCORTISONE

(Cortisporin®) ear drops.

- **Dose: 5 drops into ear canal, four times a day for 14 days.**
- Patient should leave drops in ear with head tilted to side for 5-10 minutes.

- *If patient has fever, enlarged, tender lymph nodes, or abscess,* treat for serious infection. Give one of the following antibiotics by mouth:

Give **CLOXACILLIN** (Tegopen®; 125 mg./5 ml. suspension) OR **DICLOXACILLIN** (250 mg. capsules).

- **Four times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 5 lbs.	Less than 4 mo.	100 mg. (4 cc.)
15-24 lbs.	4-17 mo.	175 mg. (7 cc.)
25-49 lbs.	18 mo. thru 6 yrs.	250 mg. (10 cc.)
50 lbs. or more	7 yrs. or more	250 mg. (1 capsule)

OR, If allergic to PENICILLIN:

Give **ERYTHROMYCIN**
(200 mg./5 ml. suspension or
250 mg. tablets)

- **Four times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	60 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80 mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

[4] Patient education should include information in chart 4.5.

Chart 4.5

Patient Education EAR CANAL INFECTION

1. It may help to apply warm cloths, especially if you have a serious infection:
 - Soak a cloth in warm, soapy water.
 - Squeeze out the extra water.
 - Apply to skin. Cover with plastic wrap to keep in the heat.
 - Do this for 15 minutes, at least four times a day.
2. You are likely to get this infection again. Moisture helps to cause it. Prevention includes keeping your ear canals dry:
 - Wear earplugs when you shower.
 - Shake out any water that gets in.
 - You may blow dry with a hair dryer held 6-8 inches from your head.
3. Follow other guidelines in chart 4.8, "General Care of an Ear Problem."

[5] Other plan may include the following:

- If *dandruff* (seborrheic dermatitis) is causing this problem, follow the plan on p.325.
- If *dermatitis* (eczema) is causing this problem, follow the plan on p.326.
- If an *abscess drains*, report to your referral doctor. While you are waiting to report, follow the plan on p.322.

[6] Recheck as follows:

- Recheck at these times:
 - ☐ in one day.
 - ☐ before patient stops taking the antibiotic.
- Examine:
 - ☐ vital signs: T, P.
 - ☐ ears.
- Clean ear canal and remove drainage, if needed.

4.6 Plan: Object in Ear Canal (Wax, Insect, or Other)

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

If you can NOT reach a doctor, follow this plan until you can.

[2] If ear wax, do the following:

- If *possible ear infection* (patient has earache, looks sick, or has fever), remove some ear wax NOW. Remove enough wax so that you can examine the eardrum. Remove with:
 - ☐ ear curette, if you have been taught; or
 - ☐ irrigation, as in chart 4.6.
- For *other patients, with a little extra ear wax*, tell patient to let soapy water run into the ears when washing. Most medicines used to dissolve ear wax are mainly detergents.
- For *other patients, with lots of ear wax*, do the following:
 - ☐ give medicine to help dissolve the wax:
 - if patient has a hole in eardrum by history:

Give

POLYMXIN B-NEOMYCIN-HYDROCORTISONE

(Cortisporin®) ear drops.

- **Dose: 5 drops into ear canal, four times a day for 7 days.**
- Patient should leave drops in ear with head tilted to side for 5-10 minutes.

— if patient does NOT have a hole in eardrum by history:

Give **CARBAMIDE PEROXIDE**

(Debrox®) ear drops.

- **Dose: 5 drops into ear canal, two times a day for 4 days.**
- Patient should leave drops in ear with head tilted to side for 5-10 minutes.

- ☐ recheck ears in 4-7 days.
- ☐ if needed, remove wax with:
 - ear curette, if you have been taught; or
 - irrigation (if NO hole in eardrum), as in chart 4.6.

[3] If insect, do the following:

- If *patient has a hole in eardrum*, do NOT put oil or water into the ear. Instead, fill the ear canal with POLYMXIN B-NEOMYCIN-HYDROCORTISONE (Cortisporin®) ear drops:
 - ☐ have patient lie on his side.
 - ☐ pull back on the ear to straighten the ear canal.
 - ☐ put eardrops into ear canal.
- If patient does NOT have a hole in eardrum, fill the ear canal with MINERAL OIL, BABY OIL, or VEGETABLE OIL (NOT motor oil):
 - ☐ have patient lie on his side.
 - ☐ pull back on the ear to straighten the ear canal.
 - ☐ place oil into ear canal.
- Doing this should kill the insect and "wash" it out.
- If needed, remove the insect from the *outer part* of the ear canal with forceps.

- If you can **NOT** remove dead insect:
 - ☐ recheck ears in 2-3 days.
 - ☐ if needed, remove with:
 - ear curette, if you have been taught; or
 - irrigation (if NO hole in eardrum), as in chart 4.6.

[4] If other foreign body, do one of the following:

- If location is at outer part of ear canal, remove carefully with forceps, if you feel it is safe.
 - ☐ be sure a child is held tightly, to avoid injury.
 - ☐ do NOT injure the ear canal or push the object in further.
- If object is a large bean, seed, or something else that will swell when it is wet, contact your referral doctor. Do NOT add any fluid to the ear canal.
- For other patients, do the following:
 - ☐ give eardrops, to help the object to "work itself out."
 - if patient has a hole in eardrum by history:

Give **POLYMXIN B-NEOMYCIN-HYDROCORTISONE**

(Cortisporin®) ear drops.

- **Dose: 5 drops into ear canal, four times a day for 7 days.**
- Patient should leave drops in ear with head tilted to side for 5-10 minutes.

— if patient does NOT have a hole in eardrum by history:

Give **CARBAMIDE PEROXIDE**

(Debrox®) ear drops.

- **Dose: 5 drops into ear canal, two times a day for 2-3 days.**
- Patient should leave drops in ear with head tilted to side for 5-10 minutes.

- ☐ recheck ears in 2-3 days.
- ☐ if needed, remove object with:
 - ear curette, if you have been taught; or

— irrigation (if NO hole in eardrum), as in chart 4.6.

Chart 4.6

IRRIGATING AN EAR TO REMOVE AN OBJECT

Do NOT irrigate if:

- You know patient has a hole in eardrum.
- The object:
 - ☐ is a large bean, seed, or something else that will swell when it is wet.
 - ☐ fills the ear canal so that water can not get around it.

Equipment/supplies needed

Large syringe (20 cc.) attached to an IV catheter (with the needle removed), or attached to a Butterfly® type of IV, with all but 2-3 cm. of the tubing cut off.

—or—

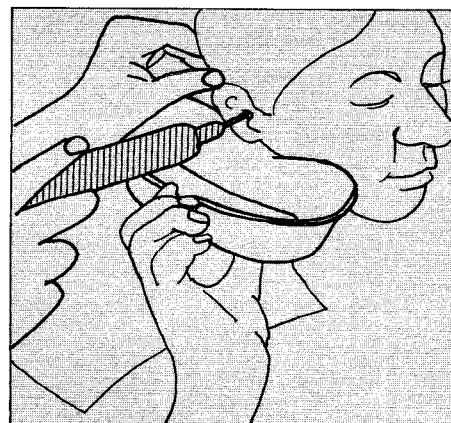
Bulb syringe

Towel

Emesis (kidney) basin, if available

Basin of water, at body temperature

1. Place a towel on patient's shoulder.
2. Have patient or parent hold an emesis basin under the ear to catch the water.
3. Have the patient tilt his head so his ear is tilted down.
4. Irrigate with water:
 - It may help to pull back on ear, to straighten ear canal.
 - Do NOT block the ear canal with the syringe.
 - Squeeze the syringe to get a strong stream of water.
 - Direct the stream around the object to help force it out from behind.
 - ☐ if object is in bottom of ear canal, aim water toward top of ear canal.
 - ☐ do NOT squirt water directly at the eardrum.



5. Repeat as needed. If you can **NOT** get out the object, report to your referral doctor.
6. After irrigating, if you find that patient has a hole in eardrum, do the following:
 - Give antibiotic eardrops:

Give

POLYMXIN B-NEOMYCIN-HYDROCORTISONE

(Cortisporin®) ear drops.

- **Dose: 5 drops into ear canal, four times a day for 2-3 days.**
- Patient should leave drops in ear with head tilted to side for 5-10 minutes.

- Recheck ear in one week.

4.7 Plan: Hearing Loss

[1] If patient has another ear problem, such as acute otitis media, treat that problem first.

[2] Report other patients to your referral doctor.

- Patient may need a hearing aid or other treatment.
- While you are waiting to report:
 - ☐ for general patient education, see chart 4.8.
 - ☐ tell patient to return to clinic for recheck in one week, sooner if getting worse.

4.8 Plan: Other or Unknown Ear Problem

[1] Report to your referral doctor.

- *Report NOW* if patient:
 - ☐ looks sick.
 - ☐ has tenderness on bone behind ear (mastoid bone). This may mean a serious infection of that bone (mastoiditis).

If you can NOT reach a doctor, follow this plan until you can.

[2] If you think a child may have acute otitis media and you can NOT reach a doctor, follow the plan for acute otitis media (Plan 4.2).

[3] Patient education should include information in chart 4.8.

Chart 4.8

Patient Education GENERAL CARE OF AN EAR PROBLEM

1. *If you have a hole in your eardrum (perforation):*
 - Keep your ear canal dry:
 - ☐ wear an earplug when you shower.
 - ☐ shake out any water that gets in.
 - ☐ it is OK to use antibiotic eardrops that are prescribed.
 - If it does not heal:
 - ☐ there is a danger you will get a growth in the ear (cholesteatoma).
 - ☐ you may need surgery to repair the eardrum.
2. *For a child:*
 - Have infant sit up when feeding. This helps to prevent milk from getting into the tube in the throat that leads to the middle ear, causing infection.
 - A child with recurrent ear problems may have hearing loss and trouble learning words. Plan times to talk and read to the child. Sit close, so the child can hear.

3. *When you have a respiratory infection:*

- If you blow your nose, do it gently. Hold your handkerchief loosely against your nose; keep your mouth open.
- Drink lots of fluid.
- NO SMOKING. Avoid breathing in smoke from others, too.

4. Prevention of ear problems includes the following:

- Avoid putting things in your ear:
 - ☐ do NOT put oil in your ear except to kill an insect. Oil may trap germs and cause more damage.
 - ☐ do NOT stick a Q-tip® or any other object into your ear canal to clean or scratch. You may push wax further into the canal, cause injury, or cause infection.
 - ☐ you may use a washcloth to clean the outer ear only.
- Avoid loud noise; it causes hearing loss. If you can NOT avoid loud noise (airplanes, guns, snow machines, others), cover your ears or wear earplugs.
- Stay healthy in general.
 - ☐ keep a child's well-child appointments.
 - ☐ if you have a draining ear or other ear problem, do NOT just hope that it will go away. See your CHA/P during clinic hours.

[4] Recheck as follows:

- Recheck at these times:
 - ☐ in one day if patient looks sick or has fever.
 - ☐ in 2-3 days, sooner if patient is feeling worse.
 - ☐ in one week.

EYE PROBLEMS

EYE INJURIES

WHEN SOMETHING SMALL GETS INTO EYE

Begin here for the following:

- Sand or dirt in eye or very small foreign body in eye.
- Patient feels like something is in the eye.

Do NOT begin here if patient has foreign body inside the eyeball (p.102, "Serious Eye Injury").

1. Begin Emergency Care

1.1 If patient wears contact lenses, remove them, unless doing this may injure the eye.

1.2 If foreign body is probably metal, report to your referral doctor before you try to remove it.

1.3 If you see a small foreign body any time during your exam, try to remove it. Go to plan 5.1.

2. History

Get general history of present illness (inside cover). Also ask the following specific questions:

2.1 Find out exactly what happened.

- What does patient think is in his eye?
- Where does patient think it is?
- 2.2** If patient has pain, is it worse when he moves the eye?

2.3 Does patient have any other eye complaints:

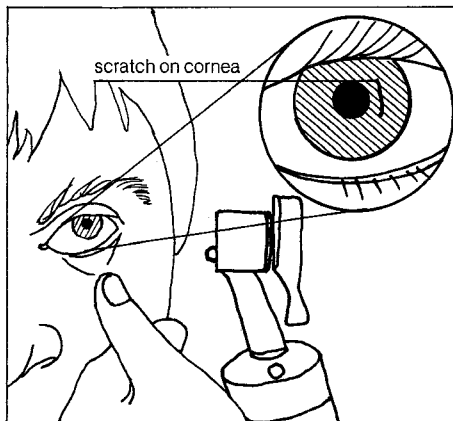
- Change in vision:
 - ☐ loss of vision in one or both eyes?
 - ☐ double vision? Does not want to open one eye?
 - ☐ blurry vision?

3. Exam

Examine the eye as follows:

3.1 Look carefully for a foreign body. Have patient look in different directions, as you check the following:

- Sclera (white part) and lower conjunctiva (thin cover for sclera and for inside of eyelid).
 - ☐ place your finger just below lower eyelid, and pull down gently.
- Cornea ("clear window").
 - ☐ shine a light on cornea from the side to look for a scratch.

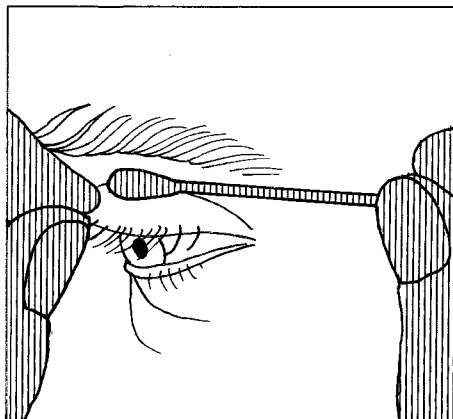


- ☐ it may help to look through an otoscope without the ear speculum.

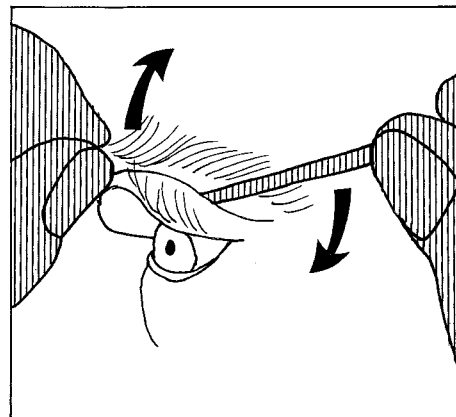
• Iris (colored part).

3.2 Fold back upper eyelid and remove foreign body if you find it:

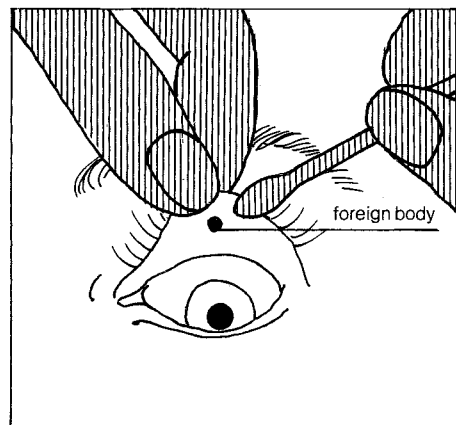
- Moisten a Q-tip® (cotton tipped applicator) and put it where you can get it easily.
- Remove most of cotton from another Q-tip®.
- Have patient look down and keep looking down until you tell him to stop.
- Get a good hold on eyelashes. Next pull eyelid forward a little bit.
- Place a Q-tip® on eyelid.



- Push down with Q-tip as you pull eyelid up and over Q-tip.



- Once eyelid is up, slide Q-tip out.
- If you see a small foreign body, touch it with the clean, moistened Q-tip® to try to remove it.



3.3 Stain the eye with FLUORESCEIN dye as on p.377.

- Look carefully for a scratch on cornea.

3.4 Vision:

- Do a Snellen test (p.375).
- If patient can not cooperate, use any print (magazine, book).
- If vision is very poor, examine as on p.375.

4. Assessment

4.1 Your assessment should include one of the following:

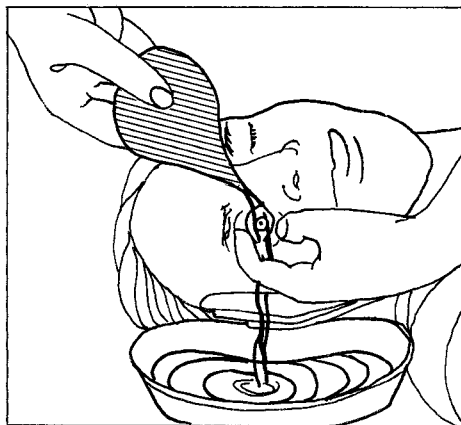
- **Small foreign body in eye** (Plan 5.1).
- **Scratch on cornea** (Plan 5.2).
- **Patient feels like something is in eye but can NOT see it on exam** (Plan 5.3).

5. Plan

5.1 Plan: Small Foreign Body in Eye

[1] Irrigate to remove the foreign body and examine again:

- Use a bulb syringe filled with clean water.
- Patient should lie down and tilt head to the side, as in the next drawing.
- Place a basin or towels under head to catch water.
- Gently hold eyelids open.
 - ☐ it may help to use gauze to hold slippery lids apart.
- Have patient look in direction that best shows foreign body.
- Irrigate eye gently, as needed.



Irrigate eye.

- Examine eye again.
 - ☐ if foreign body is still there, irrigate eye again.

[2] If foreign body is still there, do the following:

- Report NOW to your referral doctor, unless he has signed for you to care for this problem without contacting him. **If you can NOT reach a doctor**, continue to follow this plan.
- If foreign body is on cornea, put a drop of eye anesthetic (PROPARACAINE) in the eye to numb eye.
- Touch foreign body gently with a moistened Q-tip®.

[3] If you can NOT remove foreign body, do the following:

- Report to your referral doctor. **If you can NOT reach a doctor**, follow this plan until you can.
- Put **SULFACETAMIDE** eye ointment in eye.
- Bandage the eye as in plan 5.1, "Serious Eye Injury."
- Arrange for transport to hospital. While you are waiting to transport, patient should rest.

[4] After foreign body is removed, do the following:

- Recheck vision and eye exam.
- *If you removed foreign body from cornea*, look carefully:
 - ☐ use otoscope head or magnifying glass, if possible.
 - ☐ if foreign body was metal chip, is there still some rust left?
 - ☐ stain the eye with FLUORESCEIN to look for a scratch (p.377).
 - ☐ if scratch on cornea, treat as in Plan 5.2.
- *If vision or eye exam is abnormal*, report to your referral doctor and recheck as he suggests.
- If all is OK, reassure patient and tell him:
 - ☐ it may feel like something is still in the eye for a while.
 - ☐ return to clinic only if having problems or not OK within one day.

5.2 Plan: Scratch on Cornea

- [1] Report** to your referral doctor unless he has signed for you to treat this problem without contacting him.
- *Always report if vision or eye exam is abnormal.*
 - While you are waiting to report, follow this plan.

[2] Special care and medicine should include the following:

- Put **SULFACETAMIDE** eye ointment in eye.
- Apply an eye pressure patch (p.108).
- If needed, for pain:
 - ☐ give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ if pain is severe and you can NOT reach a doctor, give

ASPIRIN or ACETAMINOPHEN with CODEINE (p.416).

[3] Patient education should include the following:

- Reassure patient. It may feel like something is still in the eye for a while.
- Activity: Patient should rest.
- Every 8 hours until eye is OK, patient should:
 - ☐ put in eye ointment.
 - ☐ reapply eye patch.

[4] Recheck as follows:

- Recheck once a day until eye is OK, sooner if patient is feeling worse.
- Examine eyes, including:
 - ☐ vision.
 - ☐ stain the eye with FLUORESCEIN to recheck scratch (p.377).
- If needed, reapply eye ointment and patch.
- When the time is right, talk about accident prevention. *If problem is related to alcohol or other drug abuse*:
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

5.3 Plan: Patient Feels Like Something Is in Eye, but Can NOT See it on Exam

[1] Irrigate well, as in Plan 5.1.

[2] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[3] Special care should include the following:

- Put **SULFACETAMIDE** eye ointment in eye.
- Apply an eye pressure patch (p.108) if this makes the eye feel better.

[4] Patient education should include the following:

- Reassure patient.
- Activity: Patient should rest.
- Every 8 hours until eye is OK, patient should:

- ☐ put in eye ointment.
- ☐ reapply eye patch, if it makes eye feel better.

[5] Recheck as follows:

- Recheck in one day, sooner if eye exam was abnormal or if patient is feeling worse.
- Examine eyes, including:
 - ☐ vision.
 - ☐ stain the eye with FLUORESCEIN to check for scratch (p.377).
- When the time is right, talk about accident prevention. *If problem is related to alcohol or other drug abuse:*
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

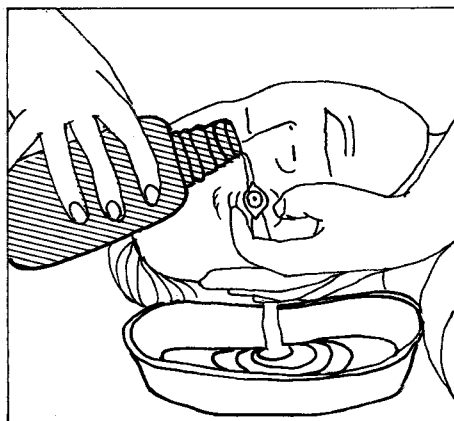
EYE: CHEMICAL BURNS

Begin here if patient gets any chemical splashed into the eye.

1. Begin Emergency Care

1.1 Immediately begin to flood eye with lots of water:

- Use a *gentle* stream of plain water, so you do NOT injure eye more.
 - ☐ use a faucet, or have a helper keep refilling water bottles as you irrigate.
- Be sure patient tilts his head so that the eye being irrigated is down, to prevent chemical from getting into other eye.
- Gently hold eyelids open.
 - ☐ it may help to use gauze to hold slippery lids apart.
- Have patient move his eye around, to help wash out the chemical.
 - ☐ *if you find pieces of the chemical* (as in Drano®), rinse these out immediately!



Flood eye with lots of water.

1.2 Flood eye for at least 30 minutes.

- Depending on what chemical it is, you may need to flood for a longer time.
- Get history and examine as you continue to flood the eye.

2. History

Get general history of present illness (inside cover). Also ask the following specific questions:

2.1 Find out exactly what happened.

- What chemical was splashed into eyes?
 - ☐ battery acid?
 - ☐ toilet bowl cleaner?
 - ☐ gasoline?
 - ☐ oven cleaner?
 - ☐ Drano®?
 - ☐ ammonia?
 - ☐ if needed, have a helper get the chemical's container.
- Did chemical splash onto another area? *If so, flood that area also, but do not stop flooding eye.*

2.2 Does patient have any other eye complaints:

- Pain?
- Feeling that something is in the eye?
- Not able to open eyes?
- Change in vision:
 - ☐ loss of vision in one or both eyes?
 - ☐ double vision? Does not want to open one eye?
 - ☐ blurry vision?

3. Exam

After eye has been flooded with water

for 30 minutes, examine the eye as follows:

3.1 Vision:

- Do a Snellen test (p.375).
- If you are away from the clinic, use any print (magazine, book).
- If vision is very poor, examine as on p.375.

3.2 Look at each part of the eye:

- Eyelids and eyelashes.
- Sclera (white part) and conjunctiva (thin cover for sclera and for inside of eyelid).
 - ☐ place your finger just below lower eyelid, and pull down gently.
- Cornea ("clear window").
- Iris (colored part).
- Pupils:
 - ☐ equal in size?
 - ☐ round?
 - ☐ react OK to light?

4. Assessment

4.1 Your assessment should be:

Chemical burn of the eye.

4.2 Include in your assessment the name of the chemical.

5. Plan

5.1 Report NOW to your referral doctor. Have someone else continue to flood the eye while you contact the doctor.

If you can NOT reach a doctor,

- Follow this plan until you can.
- If you think patient needs care at the hospital, have someone arrange for transport.

5.2 Continue to flood eye with water as follows:

- For most chemicals, if you can NOT reach the doctor, flood for another 30 minutes (total of one hour).
- If the chemical is alkali such as lye, lime (plaster of paris), ammonia, or Drano® (sodium hydroxide):
 - ☐ eye may need slow, gentle irrigation for 24 hours!
 - ☐ have someone arrange for transport to hospital while you irrigate.

5.3 Special care and medicine

should include the following:

- For burns other than alkali:
 - ☐ put **SULFACETAMIDE** eye ointment in eye.
 - ☐ apply an eye pressure patch (p.108).
- If needed, for pain:
 - ☐ give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ *if pain is severe and you can NOT reach a doctor, give ASPIRIN or ACETAMINOPHEN with CODEINE (p.416).*

5.4 Patient education should include the following:

- Reassure patient.
- Every 8 hours until eye is OK, patient should:
 - ☐ put in eye ointment.
 - ☐ reapply eye patch.

5.5 Recheck as follows:

- Recheck once a day until eye is OK, sooner if patient is feeling worse.
- Examine eyes, including vision.
- If needed, reapply eye ointment and patch.
- When the time is right, talk about accident prevention. *If problem is related to alcohol or other drug abuse:*
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

EYE: LIGHT BURNS

Begin here if patient complains of light burns of the eye.

- Examples:
 - ☐ "snow blindness."
 - ☐ burn from welding or using sunlamp without eye protection.

1. History

Get general history of present illness (inside cover). Also ask the following specific questions:

1.1 Find out exactly what happened.

- What caused the problem?

1.2 Does patient have any other eye complaints:

- Pain?
- Sensitivity to light (bothered by bright light)?
- Feeling that something is in the eye?
- Not able to open eyes?
- Blurry vision?

2. Exam

Examine the eye as follows:

2.1 Vision:

- Do a Snellen test (p.375).
- If patient can not cooperate, use any print (magazine, book).
- If vision is very poor, examine as on p.375.

2.2 Look at each part of the eye:

- Eyelids and eyelashes.
- Sclera (white part) and conjunctiva (thin cover for sclera and for inside of eyelid).
- Cornea ("clear window").
 - ☐ *if patient wears contact lenses, he should remove them.*
 - ☐ use FLUORESCCEIN dye to check for injury (p.377).
- Iris (colored part).
- Pupils:
 - ☐ equal in size?
 - ☐ round?
 - ☐ react OK to light?

3. Assessment

3.1 Your assessment should be:

Light burns of the eye. Use chart 3.1, if needed.

4. Plan

4.1 Report to your referral doctor unless he has signed for you to treat this problem without contacting him.

- *Always report if eye exam is abnormal in addition to findings listed in chart 3.1.*
- While you are waiting to report, follow this plan.

Chart 3.1

LIGHT BURNS OF EYE: TYPICAL FINDINGS

History:

- Exposure to bright light:
 - ☐ reflection off of snow ("snow blindness").
 - ☐ welding or using sunlamp without eye protection.
- Symptoms usually do not start for 6-10 hours.
- Symptoms may include:
 - ☐ feeling that something is in the eye; "gritty" feeling.
 - ☐ pain and sensitivity to light; not able to open eyes.
 - ☐ blurry vision.

Exam may include:

- Eyelid swelling.
- Conjunctiva redness.
- Cornea that stains with a rough appearance.

4.2 Special care and medicine

should include the following:

- Put **SULFACETAMIDE** eye ointment in eye.
- Apply eye pressure patches to both eyes (p.108).
- If needed, for pain:
 - ☐ give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ *if pain is severe and you can NOT reach a doctor, give ASPIRIN or ACETAMINOPHEN with CODEINE (p.416).*

4.3 Patient education should include the following:

- Reassure patient. Eye should be OK in 1-2 days.
- Activity: Patient should rest in bed.
- Keep patches on.

4.4 Recheck as follows:

- Recheck once a day until eye is OK, sooner if patient is feeling worse.
- Examine eyes, including vision.
- If needed, reapply eye ointment and patches.

- When the time is right, talk about accident prevention. *If problem is related to alcohol* or other drug abuse:
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

OTHER EYE INJURIES

Begin here for most eye injuries, including:

- Bruise, black eye.
- Something sticking into the eye (foreign body), or other serious eye injury.

Do NOT begin here for the following:

- When something small gets into eye (p.97).
- Chemical burns (p.99).
- Light burns (p.100).

1. Begin Emergency Care

1.1 *If patient wears contact lenses*, remove them, unless doing this may injure the eye more.

1.2 *If eyelid is bleeding*, do NOT apply pressure until you are sure that eyeball is NOT cut.

1.3 Do NOT examine patient's eye any more if you see that he has a serious injury such as:

- Foreign body sticking into eye.
- Severe cut of eyelid.
- Possible cut of eyeball.
- Eyeball bulging out of socket.
- Signs of a broken eyeball:
 - ☐ black tissue where the white part of eye should be.
 - ☐ severe swelling of conjunctiva (membrane over white part of eye).

1.4 *If your assessment is "serious eye injury,"* go to Plan 5.1.

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Find out about the accident that caused the injury.

- Exactly what happened?
 - ☐ what caused the injury?
 - ☐ how hard was the eye hit?
- Did it bleed?
- Did patient pass out (faint)?
- Did patient get other injuries?

[2] If patient has pain, is it worse when he moves the eye?

[3] Does patient have any other eye complaints:

- Feeling that something is in the eye?
- Change in vision:
 - ☐ loss of vision in one or both eyes?
 - ☐ double vision? Does not want to open one eye?
 - ☐ blurry vision?

2.2 Past Health History

[1] Illnesses.

[2] When was last TETANUS shot?

3. Exam

3.1 General appearance.

3.2 Vital signs: P, BP.

3.3 Eyes. Examine both eyes.

Compare one eye to the other:

[1] Vision:

- Do a Snellen test (p.375).
- If you are away from the clinic, use any print (magazine, book).
- If vision is very poor, examine as on p.375.

[2] Put gentle pressure on bones around eye to check for a broken bone.

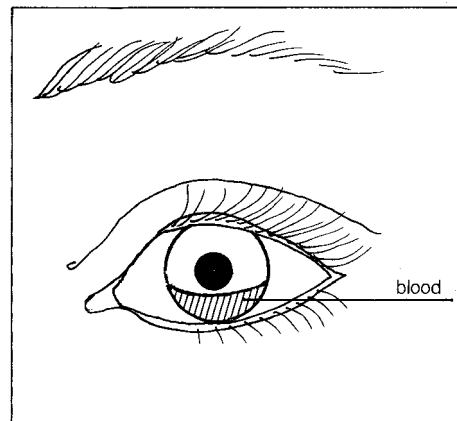
[3] If needed, use Q-tip®s to help you gently retract eyelids. Look at each part of the eye:

- Eyelids and eyelashes.
- Sclera (white part) and conjunctiva (thin cover for sclera and for inside of eyelid).
 - ☐ place your finger just below lower eyelid, and pull down gently.
- Cornea ("clear window"). *If you suspect a scratch:*
 - ☐ shine a light on cornea from the side.

☐ *if there is NO other serious eye injury*, use FLUORESCEIN dye as on p.377.

• Iris (colored part).

- ☐ is it smooth, or do you see a rip?
- ☐ look for blood inside eye between bottom of cornea and iris.



• Pupils:

- ☐ equal in size?
- ☐ round?
- ☐ react OK to light?

[4] Eye muscles:

- Ask patient to look at your finger as you slowly move it in a large circle.
- Do eyes move OK in all directions?

4. Assessment

4.1 Your assessment should be:

Eye injury.

4.2 Make a more specific assessment. Use chart 4.2 to decide if this is a serious eye injury.

4.3 Include in your assessment that the problem is one of the following:

- **Serious eye injury** (Plan 5.1).
- **Black eye (bruise)** (Plan 5.2).
- **Minor cut of eyelid** (Plan 5.3).
- **Small foreign body in eye** (Plan: p.98).
- **Scratch on cornea** (Plan: p.98).
- **Other or unknown injury** (Plan 5.4).

5. Plan

5.1 Plan: Serious Eye Injury

[1] Report NOW to your referral

Chart 4.2

SERIOUS EYE INJURY ASSESSMENT: SOME TYPICAL FINDINGS

Exam may include any of the following:

- Foreign body sticking into eye.
- Severe cut of eyelid.
- Possible cut of eyeball.
- Eyeball bulging out of socket.
- Signs of a broken eyeball:
 - ☐ black tissue where white part of eye should be.
 - ☐ severe swelling of conjunctiva (membrane over white part of eye).
- Any change in iris or pupil.
- Blood seen inside eyeball.
- Other severe injury.

doctor. Begin the following treatment while someone else contacts the doctor.

If you can NOT reach a doctor,

- Follow this plan until you can.
- Have someone arrange for transport to hospital as soon as possible.

[2] Warnings include the following:

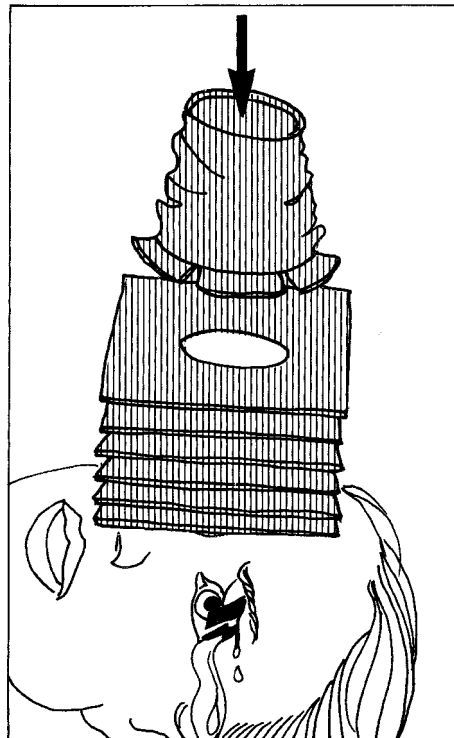
- If foreign body is sticking into eye, do NOT take it out.
 - ☐ pulling out a foreign body may cause more damage.
 - ☐ instead, when you bandage the eye, also bandage the foreign body so it can NOT move.
- Do NOT put any eye drops or ointment in eye.
- If eyeball is bulging out of the socket, do NOT try to push it back in.
- Place 4x4's over eye so that they do not touch eye.
 - ☐ the 4x4's should also fit around a foreign body.
- Place a crushed paper cup or something similar over the eye.
 - ☐ edges of cup should be cushioned by the 4x4's.
 - ☐ cup may need to fit around a large foreign body. Cut a hole, if needed.

[3] Bandage the eye well to protect it:

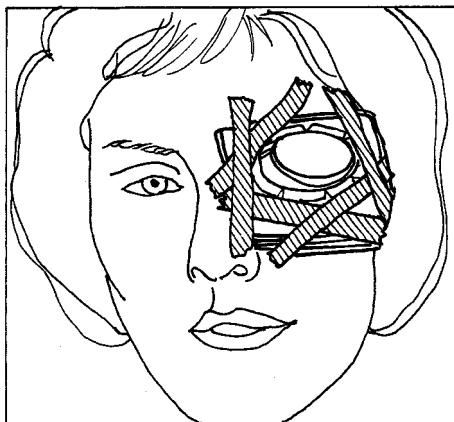
- If eyelids do NOT cover the eyeball,

gently cover with sterile gauze, wet with 0.9% SODIUM CHLORIDE (normal saline).

- ☐ do NOT let anything else touch the eye.
- Make a thick dressing of at least six 4x4's (gauze sponges).
- Cut a large hole in center of 4x4's.
 - ☐ hole should be large enough so dressing will fit over eye without touching it.

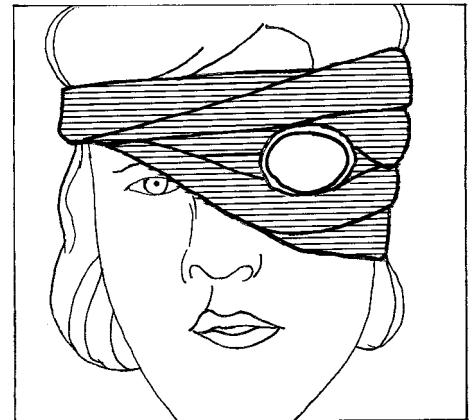


- Tape paper cup on top of 4x4's.
 - ☐ use lots of tape to hold the cup and 4x4's in place.



- It is NOT necessary to also put an eye patch over the good eye.

- Carefully bandage the dressing and cup in place.



[4] Other plan should include the following:

- Reassure patient and keep him quiet.
- Position: Patient should rest with back and head raised up on a pillow.
- Diet: Nothing by mouth.
- If patient has NOT had a TETANUS booster shot in the past 10 years:

Give I.M. booster shot of **TETANUS TOXOID and DIPHTHERIA (Td)**

- **Dose: 0.5 cc. I.M.**

- Plan to talk about accident prevention when the time is right. *If problem is related to alcohol or other drug abuse:*
 - ☐ remind patient kindly of this.
 - ☐ plan to talk more with patient (p.204).

[5] If transport is delayed do the following:

- If patient needs fluid to prevent dehydration, give small amounts of clear liquids by mouth (p.74).
- If needed, for pain:
 - ☐ give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ if pain is severe and you can NOT reach a doctor, give ASPIRIN or ACETAMINOPHEN with CODEINE (p.416).

5.2 Plan: Black Eye (Bruise)

[1] Report to your referral doctor unless he has signed for you to treat this problem without contacting him.

- *Always report if eye exam is abnormal.*
- While you are waiting to report, follow this plan.

[2] Patient education should include the following:

- Reassure patient.
- To ease pain and swelling and to help healing, patient should:
 - ☐ apply cold packs (ice wrapped in towel) on-and-off for first 1-2 days.
 - ☐ after 1-2 days, apply heat to bruise for 15 minutes, about 4 times a day.
- If needed, for pain, patient could take ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).

[3] Recheck as follows:

- Recheck in one day, sooner if patient is feeling worse.
- Examine eyes, including vision.
- When the time is right, talk about accident prevention. *If problem is related to alcohol or other drug abuse:*
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

5.3 Plan: Minor Cut of Eyelid

[1] Report to your referral doctor unless he has signed for you to treat this problem without contacting him.

- *Always report if:*
 - ☐ cut is large or deep (through the skin, needing sutures).
 - ☐ eye exam is abnormal.
- While you are waiting to report, follow this plan.

[2] Special care should include the following:

- Clean the wound with soap and water (p.344).
 - ☐ clean gently, but clean well.
 - ☐ teach the patient how to do this at home.

- Put on a sterile eye pad or 2x2 gauze.
- If patient has NOT had a TETANUS booster shot in the past 10 years:

Give I.M. booster shot of **TETANUS TOXOID and DIPHTHERIA (Td)**
• **Dose: 0.5 cc. I.M.**

[3] Patient education should include the following:

- Reassure patient.
- Patient should wash the cut once a day and replace eye pad until skin is healing well.

[4] Recheck as follows:

- Recheck at these times:
 - ☐ once a day until cut is healing well.
 - ☐ in one week.
- Examine eyes, including vision.
- *If cut is getting infected*, (getting more tender, warm, red, swollen; pus seen), treat as on p.321, "Infected Wound."
- When the time is right, talk about accident prevention. *If problem is related to alcohol or other drug abuse:*
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

5.4 Plan: Other or Unknown Injury

[1] Report to your referral doctor. **If you can NOT reach a doctor**, follow this plan until you can:

- *If there is any chance that patient may have serious eye injury:*
 - ☐ bandage the eye as in plan 5.1.
 - ☐ have patient rest at home.
- Recheck in 12 hours and make another assessment.
- Plan to talk about accident prevention when the time is right. *If problem is related to alcohol or other drug abuse:*
 - ☐ remind patient kindly of this.
 - ☐ plan to talk more with patient (p.204).

EYE PROBLEMS

Begin here for eye problems OTHER than when something small gets into eye (p.97), chemical burns (p.99), light burns (p.100), or other eye injuries (p.101).

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Does patient have other eye problems:

- Change in vision, such as:
 - ☐ double vision?
 - ☐ blurry vision?
 - ☐ spots before the eyes?
 - ☐ "halos" around lights?
 - ☐ loss of sight?
- Eye pain?
- Feeling that something is in the eye?
- Itching or burning?
- Eyelids stick together in the morning?
- Watery eyes?
- Sneezing?
- Discharge? If so, what is it like?
- Sensitive to bright light?

[2] Recent history:

- Eye injury or exposure to smoke or chemicals?
- If blurry vision or double vision, ask if patient has been eating home canned or fermented food in the past few days. If so, now go to p.281. Consider that the assessment is botulism.

1.2 Past Health History

[1] Illnesses:

- Glaucoma (high eye pressure) in himself or family?
- Tuberculosis?
- Diabetes?

[2] Allergies?

[3] Medicines:

- What medicines is patient taking now?

1.3 Other History

[1] Does patient have other complaints?

[2] Does anyone else at home have the same problem?

[3] Is there a family history of the same problem?

2. Exam

2.1 General appearance.

2.2 Vital signs: T, P, BP.

2.3 Eyes:

[1] Vision: Do a Snellen Test (p.375).

[2] Look at each part of the eye.

Compare one eye to the other:

- Eyelids and eyelashes.
- Sclera (white part) and conjunctiva (thin cover for sclera and for inside of eyelid).
 - ☐ if red (inflamed) eye, look closely. Where exactly is the inflammation?
 - all over?
 - more in certain places?

- Cornea ("clear window"). *If you suspect a cornea problem:*
 - ☐ shine a light on cornea from the side.

☐ stain the eye with FLUORESCEIN dye as on p.377.

- Iris (colored part).
- Pupils:
 - ☐ equal in size?
 - ☐ round?
 - ☐ react OK to light?

[3] Eye muscles.

- Ask patient to look at your finger as you slowly move it in a large circle.
- Do eyes move OK in all directions?

[4] Check eye pressure (tonometry) on certain patients:

- Check if either of the following is true:
 - ☐ if patient is more than age 40.
 - ☐ if patient has signs of glaucoma:
 - severe eye pain.
 - blurry vision.
 - cloudy cornea.
 - large pupil.
- Use the tonometer on the good eye first (p.377).

3. Assessment

3.1 Your assessment should be:

Eye problem.

3.2 Make a more specific assessment.

- *If red (inflamed) eye:*
 - ☐ see chart 3.2. The most common

assessment is conjunctivitis, but be sure there is not a more serious problem.

- ☐ consider that the assessment may be "severe eye infection" (in or around the eye) if patient has any of the following:
 - fever and pain, with patient looking sick.
 - severe swelling of the eyelids with no history of injury or allergic reaction.
 - pus behind the cornea.
 - limited, painful eye-movement.

3.3 Include in your assessment that the problem is one of the following:

- **Conjunctivitis** (pink eye) (Plan 4.1).
- **Acute iritis** (Plan 4.2).
- **Acute glaucoma** (Plan 4.3).
- **Severe eye infection** (Plan 4.4).
- **Solid section of bright red blood on white part of eye** (subconjunctival hemorrhage) (Plan 4.5).
- **Small painful lump on eyelid** (probable sty) (Plan 4.6).
- **Flaky skin on eyelids, near eyelashes** (blepharitis) (Plan 4.7).
- **Other or unknown eye problem** (Plan 4.8).

Chart 3.2

Red Eye: Typical Findings for Three Common Assessments

History & Exam	CONJUNCTIVITIS [pink eye] (Plan 4.1)	ACUTE IRITIS (Plan 4.2)	ACUTE GLAUCOMA (Plan 4.3)
One or both eyes	Often in both. May start or be worse in one.	Usually one eye.	Usually one eye.
Pain	Usually none. Some itching or scratching.	Moderate pain. Pain/sensitivity to bright light.	Severe pain. So bad it may cause headache, nausea, abdominal pain.
Vision	Normal.	Slightly abnormal.	Very abnormal.
Discharge	Yes. Eyelids may stick together in morning.	May be some; watery.	None.
Inflammation, Redness of Conjunctiva	All over sclera. Sometimes more toward outer edges.	More red around edge of cornea.	All over sclera.
Cornea	Clear.	Usually clear.	Steamy.
Pupil	Normal size.	Small. Pupil may NOT be round.	May be large.
Reaction to light	Normal.	Poor.	Poor.
Eye Pressure	Normal.	Normal or low.	High.

4. Plan

4.1 Plan: Conjunctivitis (Pink Eye)

[1] Report to your referral doctor unless he has signed for you to treat this problem without contacting him.

- Always report if patient has:
 - ☐ eye pain.
 - ☐ a lot of pus.
- While you are waiting to report, follow this plan.

[2] Patient education should include the following:

- Teach the patient to remove crusts and discharge from the eye using soaks with warm water and a cloth.
- Explain that this is contagious.
 - ☐ patient should not share a towel.
 - ☐ wash hands after touching the eye.

[3] Medicine. Give a local antibiotic.

Give **SULFACETAMIDE** eye ointment or drops.

- Patient should apply to inside of lower eyelid.
- **Four times a day for 7 days.**
 - ☐ if there is a lot of pus, patient should apply it every two hours.

OR,
If allergic to SULFA:

Give **ERYTHROMYCIN** eye ointment, with same directions as above.

[4] Recheck as follows:

- Recheck at these times:
 - ☐ in two days if not getting better, sooner if getting worse
 - ☐ in seven days, before stopping medicine.

4.2 Plan: Acute Iritis

[1] Report to your referral doctor NOW.

If you can NOT reach a doctor,

- Follow this plan until you can.
- Arrange transport to hospital.

[2] Medicine should include the following:

- Give ASPIRIN, 1½ times the normal dose (p.416), every 4 hours.
- Your doctor may prescribe other medicines if transport is delayed. Do NOT give the following unless ordered by the doctor:
 - ☐ PREDNISOLONE ACETATE (Pred Forte®) eye drops or other eyedrops that have a steroid in them, such as Metimyd®, which has PREDNISOLONE.
 - patient should place 1-2 drops in the eye every two hours.
 - caution: this may make a herpes infection worse.
 - ☐ ATROPINE eyedrops, to dilate the pupil.

[3] Transport patient to hospital.

While you are waiting to transport, if bright light gives patient pain, suggest dark glasses or eye patch.

4.3 Plan: Acute Glaucoma

[1] Report to your referral doctor NOW.

If you can NOT reach a doctor,

- Follow this plan until you can.
- Arrange transport to hospital. Patient may need surgery.

[2] Medicine for an adult should include the following. Give all three, if available:

Give **GLYCERIN** 50% solution (Osmoglyn®).

- **Give 1 ml. for every pound of body weight.**
- Give with orange juice and ice, if possible (easier to swallow).
- Give NO other fluids for 2-3 hours.

AND:

Give **ACETAZOLAMIDE** (Diamox®; 250 mg. tablets).

- **Dose: Two tablets now. Then one tablet every 4 hours.**

AND:

Give **PILOCARPINE** 2% eye drops.

• **Dose:**

- ☐ two drops in bad eye every 5 minutes for 30 minutes.
- ☐ next, two drops every 4 hours in both eyes.

[3] Transport patient to hospital.

4.4 Plan: Severe Eye Infection

[1] Report to your referral doctor NOW.

If you can NOT reach a doctor, follow this plan until you can.

[2] Patient education. Patient should soak a cloth in warm water and apply for 15 minutes, at least four times a day.

[3] Medicine should include the following:

- Give an antibiotic:

Give I.M. shot of **PROCAINE PENICILLIN** (Wycillin®).

- **Give shot every 12 hours:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	150,000 Units
15-24 lbs.	4-17 mo.	300,000 Units
25-34 lbs.	18 mo. thru 3 yrs.	450,000 Units
35-49 lbs.	4-6 yrs.	600,000 Units
50 lbs. or more	7 yrs. or more	1,200,000 Units

OR,
If allergic to PENICILLIN:

Give **ERYTHROMYCIN**
(200 mg./5 ml. suspension or
250 mg. tablets)
• **Every six hours for 10 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	60 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80 mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs.	500 mg. (2 tablets)

- If needed for pain, give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).

[4] Recheck as follows:

- Recheck every 12 hours until OK.
- Examine:
 - ☐ vital signs: T, P.
 - ☐ eye.
- If patient is worse instead of better, and you can not reach the doctor, arrange for transport to hospital.
- If patient is getting I.M. PENICILLIN shots, in 24 hours after temperature is back to normal, switch to oral PENICILLIN, as follows:

Give **PENICILLIN V**
(250 mg./5 ml. suspension or
250 mg. tablets).
• **Four times a day for a total of 10 days of antibiotic medicine:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	50 mg. (1 cc.)
15-24 lbs.	4-17 mo.	75 mg. (1½ cc.)
25-34 lbs.	18 mo. thru 3 yrs.	125 mg. (2½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (4 cc.)
50 lbs. or more	7 yrs. or more	250 mg. (1 tablet)

4.5 Plan: Solid Section of Bright Red Blood on White Part of Eye

[1] Report to your referral doctor only if history of injury or if eye exam is otherwise abnormal.

[2] Patient education. Reassure the patient.

- There is bleeding between the sclera (white part) and conjunctiva (thin cover for sclera and for inside of eyelid).
- It should NOT be a problem.
- It will take a while to heal, like a bruise.

[3] Recheck only as needed. Tell patient to return to clinic in 1 week if not getting better, sooner if getting worse.

4.6 Plan: Small, Painful Lump on the Eyelid

[1] Report to your referral doctor unless he has signed for you to treat this problem without contacting him.

- Always report if
 - ☐ patient looks sick or has fever.
 - ☐ lump is large.
 - ☐ this problem is recurrent.
- While you are waiting to report, follow this plan.

[2] Patient education should include the following:

- This is probably a sty, an infection at the bottom of one of the eyelashes.
- Do NOT squeeze.
- Do NOT touch the eyelid more than needed.
- Patient should soak a cloth in warm water and apply for 15 minutes, at least four times a day.
- The lump will probably break open and improve.

[3] Medicine. Give a local antibiotic.

Give **SULFACETAMIDE** eye ointment or drops.
• Patient should apply to inside of lower eyelid.
• **Four times a day for 7 days.**

OR,
If allergic to SULFA:

Give **ERYTHROMYCIN** eye ointment, with same directions as above.

[4] Recheck as follows:

- Recheck at these times:
 - ☐ in two days if not getting better, sooner if getting worse
 - ☐ in seven days, before stopping medicine.

4.7 Plan: Flaky Skin on Eyelids, Near Eyelashes

Blepharitis is mainly a problem with the edge of the eyelid, near the eyelashes:

- Itchy, dry, inflamed skin.
- Flakes, like dandruff in eyelashes.

[1] Special care should include the following:

- If patient also has dandruff, he should use dandruff shampoo on scalp.
- It may help to wash eyelashes with baby shampoo.
- Now go to Plan 4.1 and treat the same as for conjunctivitis.
 - ☐ patient should apply eye ointment on the base of the eyelashes also.

4.8 Plan: Other or Unknown Eye Problem

[1] Report to your referral doctor.

- Report NOW if:
 - ☐ patient complains of sudden change in vision.
 - ☐ patient has real pain (not just a scratchy feeling).
 - ☐ eye is sensitive to light.
 - ☐ patient looks sick or has fever.

If you can NOT reach a doctor,

- Follow this plan until you can.
- If you think this may be a serious problem, patient should rest in bed, with head slightly elevated.

[2] Consider other assessments as follows:

- If eye is red and you can NOT make a more specific assessment, treat as follows:
 - ☐ if patient does NOT look sick, treat for conjunctivitis (Plan 4.1)
 - ☐ if patient looks very sick, treat for severe eye infection (Plan 4.4).
- If you see some problem on the cornea with FLUORESCEIN stain:
 - ☐ if you think it is a minor scratch, go to p.98.
 - ☐ if you think it is an ulcer, or if you see pus:
 - arrange for transport to hospital.
 - apply eye drops or ointment in the eye every 2 hours, the same as for conjunctivitis (Plan 4.1).

GLAUCOMA: LONG-TERM CARE

Acute glaucoma is usually treated by surgery. Chronic glaucoma is a different disease. It is usually treated by medicines.

Begin here for long-term care of patient with glaucoma.

1. Get Information from the Doctor

You need to know the doctor's assessment and plan, including:

1.1 Medicine: Is patient supposed to take any medicine? If so, for each medicine, find out the following:

- Name.
- Dose.
- How often patient should take it.
- Warnings and side effects patient should look for.
- Possible problems when taking other medicine at the same time (drug interactions).

1.2 Are there any special problems or symptoms to watch for in this patient?

1.3 Is there other special patient education?

1.4 Does patient need any special appointments or tests? If so, how will these be arranged?

2. Get History From Patient

2.1 If on medicine:

- Does patient take medicine as directed?
- Are there side effects or problems from the medicine?

2.2 Does patient have any problems, such as:

- Eye pain?
- Blurred vision?
- Trouble seeing in the dark?
- Trouble seeing close work?
- Halos or colored rings around light?
- Trouble seeing things from the side?

3. Exam

Check for changes from patient's usual exam:

3.1 Vital signs: T, P, R, BP.

3.2 Vision: Do a Snellen test (p.375).

3.3 Check eye pressure (tonometry, p.377).

4. Assessment

4.1 Your assessment should be:

Glaucoma: follow-up care.

4.2 Decide if eye pressure is under control. Include in your assessment:

- "Eye pressure under control," if pressure is OK, or
- "Eye pressure not controlled," if pressure is high.

4.3 Also include in your assessment:

- "Doing well," if no problems.
- Problems with medicine:
 - ☐ side effects.
 - ☐ NOT taking as directed.
- Other problems you have found.

5. Plan

5.1 Patient education is important, in order to prevent problems.

- Get patient education handouts from your referral hospital or other sources.
- Patient should understand that this disease can be "silent." Patient may NOT know if he is getting worse.
 - ☐ if on medicine, it is important to take it as directed.
 - ☐ recheck visits are important.

5.2 If on medicine your plan should include the following:

- Remind patient about warnings and possible side effects.
- If side effects, treat as recommended by your referral doctor.
- Give patient a refill, if needed.

5.3 Recheck: Make appointment for next visit. If doing well, see patient every 3 months.

5.4 Report to your referral doctor:

- If possible, send a copy of your SOAP note to the doctor. Contact him sooner if pressure is high.

5.5 Other plan should include the following:

- Order more medicines, if needed.
 - ☐ fill out the pharmacy refill request, if needed.

- Check to see that:
 - ☐ patient's name is on list of patients to be seen on a field trip by doctor, PHN, or other visiting health care providers recommended by the doctor, such as optometrist or eye care assistant.
 - ☐ this chronic problem is written on patient's problem list.

EYE: PRESSURE PATCH

Summary EYE: PRESSURE PATCH

1. Dry the Skin.
2. Position the Eye Pad.
3. Tape Pad with Pressure.
4. Tape a Second Pad on Top.

General Approach

Use a pressure patch to keep eyelid closed:

- Apply a pressure patch to eye when there is a scratch or an ulcer.
- *If possible serious eye injury*, such as cut eyeball or foreign body:
 - ☐ do NOT apply a pressure patch.
 - ☐ apply bandage that *protects* eye while you transport (p.102).

EYE: PRESSURE PATCH

Equipment Needed:

ALCOHOL wipe

Eye pads (or 2x2 gauze pads)

Tape

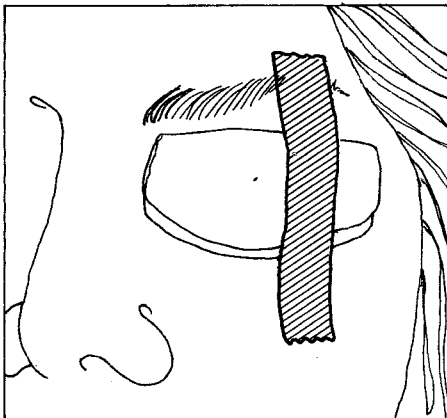
1. Dry the Skin

If patient's forehead or cheek is moist or oily:

- [1]** Wipe with ALCOHOL.
 - Be careful. Do NOT get ALCOHOL in eye.
- [2]** Let it dry.

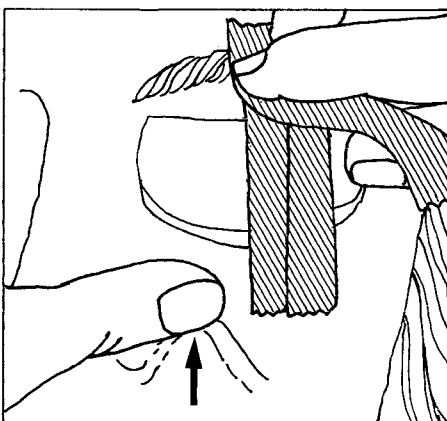
2. Position the Eye Pad

- [1]** Fold an eye pad in half lengthwise.
- [2]** Tape pad in place gently, just to position pad where you want it before you begin next step.



3. Tape Pad with Pressure

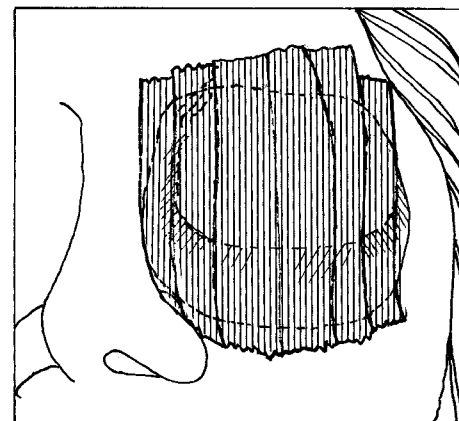
- [1]** Attach tape well to *forehead* on outer (lateral, ear) side of eyepad.
- [2]** **Pull up the cheek.**
- [3]** Tape the cheek.
- [4]** In the middle of pad, repeat taping with pulling up the cheek.



To give pressure, pull up on the cheek before you tape it.

4. Tape a Second Pad on Top

- [1]** Place a second eye pad, unfolded, on top of the first.
- [2]** Tape it down well.
 - You do NOT need to pull up cheek.
 - Start on outer (lateral) side. Work toward nose.
 - Overlap the pieces of tape.



EYEGLOSS CARE, ADJUSTMENT, REPAIR

GENERAL INFORMATION

Patient Education

Patient education should include information in chart 1.

Measuring Interpupillary Distance

To make glasses, the optician needs the prescription, frame information, and the patient's interpupillary distance (PD). The PD is the distance between the patient's pupils. If the optician asks you to measure the PD, do the following:

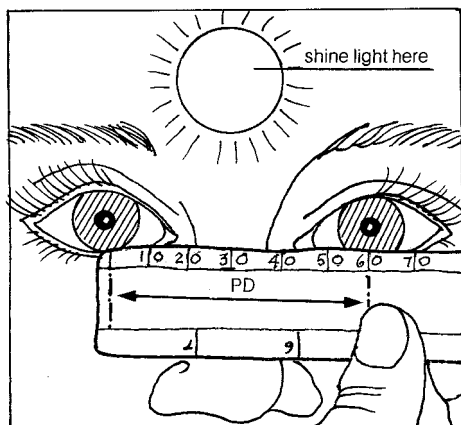
- [1]** Place your face about 16 inches from the patient's face. *Tell patient:* "Look at my nose."
- [2]** Shine a light from your forehead area to the center of patient's forehead. Look for the small light reflection on each pupil.

[3] Hold a millimeter (mm.) ruler up to the bridge of patient's nose. Steady your hand on the cheek.

[4] Close one of your eyes. Line up the zero mark of the ruler with the light reflection on one pupil.

[5] Keeping your *same eye closed*, read the distance in mm. to the light reflection on the other pupil.

[6] Tell the optician: "The *near PD* is ____mm." It is important to use these words, because there are different ways of measuring the PD.



Measure the PD in millimeters.

Equipment for Adjustment/Repair

Following the equipment list, some equipment is also pictured, to help you remember.

Get replacements from your referral hospital. *If hospital needs ordering information*, Anchorage CHAP has a list.

EYEGLASS ADJUSTMENT & REPAIR

Equipment/supplies needed:

- Acetone
- Bolt bushing extractor
- Cutting nipper, to cut off eyeglass bolts, shields, or rivets that are too long.
- Emery cloth
- Epoxy glue
- Files:
 - Fine metal file (Pillar file)
 - Zylonite file
- Frame warmer
- Hammer, small

Hinge repair materials:

- Assorted hinges and rivets/shields
- Riveting anvil with four punches

Optical screwdriver

Pliers:

- Chain nose plier, to hold or bend thin metal pieces which are straight or curved only a little bit.
- Flat and round nose plier, to hold or bend thin metal pieces which are sharply curved.
- Hinge gripper plier, to hold a front by the hinge on the end piece.
- Vertical hinge gripping plier

Replacement parts:

- Bolts
- Old glasses from people in your town

Screw extractor

Hexagon wrench

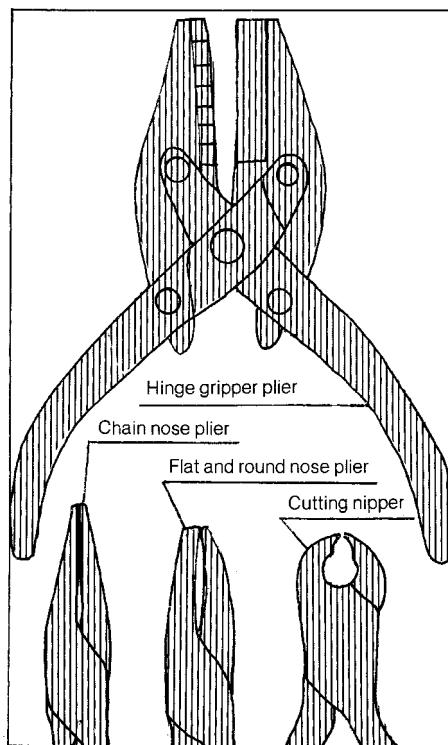


Chart 1

Patient Education EYEGLASS CARE

1. Clean your glasses:

- Use water and towel. Add a small amount of soap if needed.
- Wipe plastic lenses with a soft cloth only. Do NOT use paper, unless the lenses have a special coating to prevent scratches.

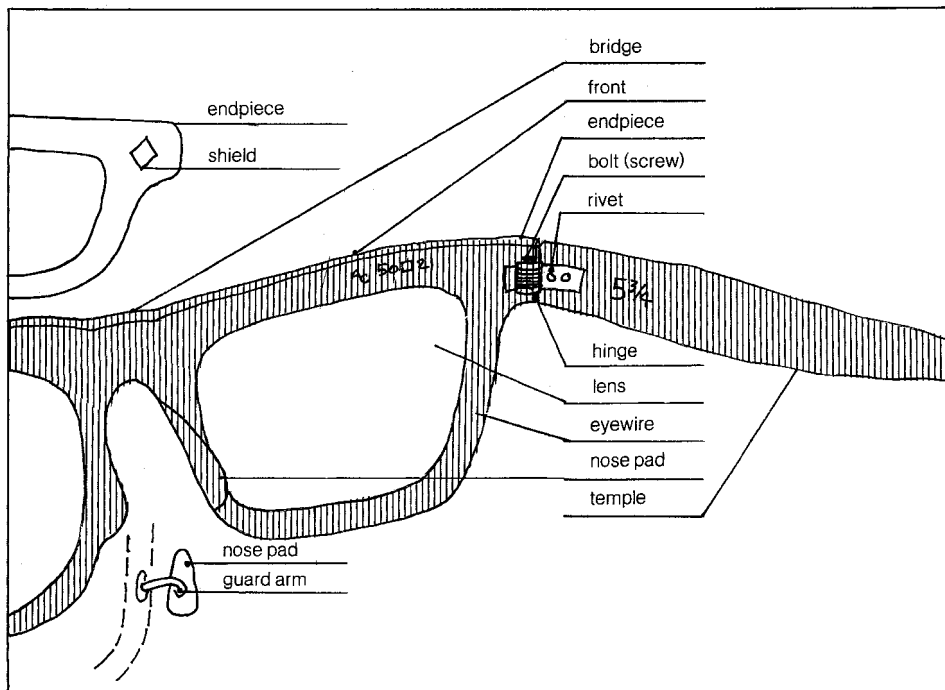
2. Protect your glasses:

- Use both hands when putting on or taking off glasses.
- When you lay glasses down, place them upside-down. The glasses should rest on the top of the frontpiece and the top of the temples. They will get scratched if the lens side is placed down.
- Keep glasses in the case when not being worn, to prevent scratching.
- *If you wear glasses when playing in rough games or sports*, use an elastic band around your head to keep the glasses on.

3. Prevent repair problems:

- Have loose bolts tightened.
- Have adjustments made as needed.
- Plastic frames are stronger and easier to fix. They are recommended for children and active adults.
- Keep a spare pair of glasses.
- Keep a copy of your eyeglass prescription and frame measurements.
- Bring old eyeglasses to the clinic. They can be used for spare parts.

4. *If you want another pair*, you can probably order by mail. The place where you bought your glasses should have a copy of your prescription and measurements.



Parts of eyeglasses

ADJUSTING EYEGLASSES

General Approach

Glasses usually need adjustment:

- When they arrive new from the optician.
- When they do not fit right.

If the frame is plastic, remember to heat the frame before bending, unless noted otherwise.

1. Adjust Glasses When They Are Off of the Patient

Before you fit the glasses to the patient, they need to be inspected and adjusted.

Equipment Needed:

Flat and round nose plier
Optical screwdriver
Fine metal file (Pillar file)

If plastic frame:

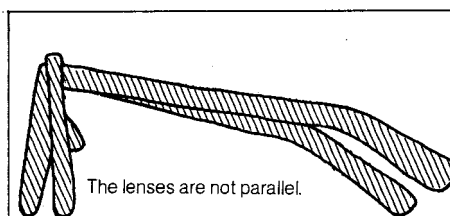
- Frame warmer
- Zylonite file

1.1 Inspect the glasses. Check to see that:

- There are no parts missing.
- Bolts are tight. You may want to "head over" (flatten, peen) the ends of bolts to prevent loss.

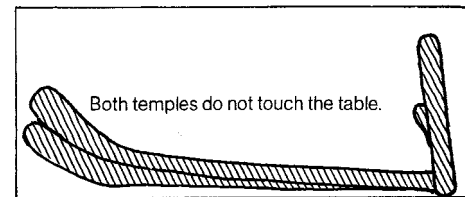
1.2 Look at the glasses from the side.

- Are the lenses parallel? *If not*, bend the front at the bridge until they are parallel.



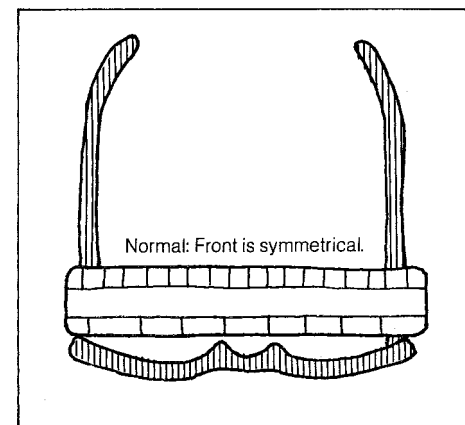
1.3 Place the glasses upside down on the table, as in the next drawing.

- Do both temples touch the table? *If not*:
 - ☐ bend the temple that does not touch the table.
 - ☐ you do NOT need to heat a plastic frame to do this adjustment.



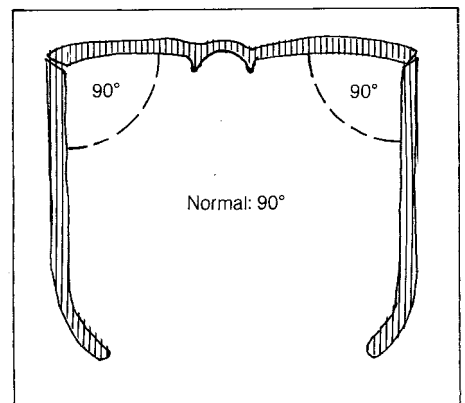
1.4 With the glasses still upside down, rest a straight edge (ruler) on the temples, touching against the front.

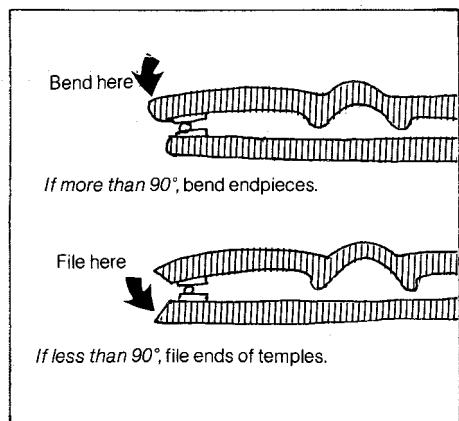
- Is the front symmetrical (the same on both sides)?
- It should also be fairly straight, or just slightly bowed.
- *If abnormal*, correct by bending the front at the bridge.



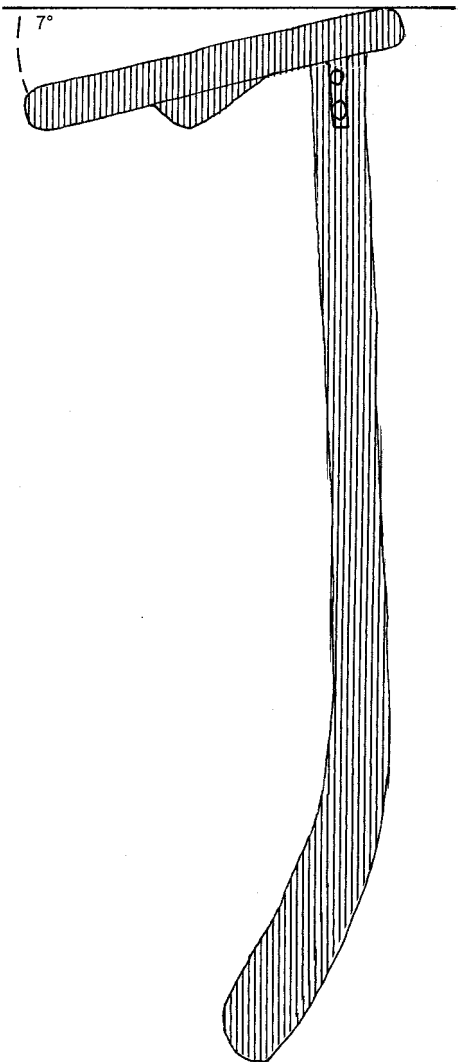
1.5 With the glasses still upside down, check the following:

- Do the temples meet the front at a 90° angle, like a square? *If not*:
 - ☐ *if more than 90°*, bend the endpieces of the front.
 - ☐ *if less than 90°*, file the ends of the temples. File so that you make them flatter. File the *same* on the end of both temples.





1.6 Lay the glasses on their side, on top of the drawing that follows.



- Is the bottom of the front tilted toward the temples at a 7° angle? *If not:*

- ☐ hold the front at one endpiece. Use the vertical hinge gripping plier.
- ☐ carefully, with even pressure, bend the temple a small amount in the proper direction:
 - up, to make the angle smaller.
 - down to make the angle larger.
- ☐ repeat on the other side. Bend that temple the same amount as you bent the other.
- ☐ recheck the angle. Bend the temples more if needed.
- ☐ repeat step 1.3 to recheck temples.

1.7 If the frame has adjustable nose pads, check them:

- Are the nose pads parallel to the curve of the frame? *If not,* bend the metal guard arm that holds the nose pad:
 - ☐ use the flat and round nose pliers. Use the round nose *inside* the bend of the guard arm.

2. Fit Glasses to the Patient

2.1 Have patient put on the glasses using two hands.

2.2 Look at patient's eyes and the front of the glasses. The front:

- Should be straight
- Should NOT rest on cheeks

2.3 Look at each temple:

- It should rest directly against top of ear.
- It should NOT touch head until it reaches top of ear.
- It should start to bend down where it reaches top of ear.
- It should conform to head behind ear.

2.4 The nose pads should sit evenly on patient's nose.

2.5 Ask patient if the glasses feel OK. Is anything NOT comfortable?

2.6 If you find problems with the fit, use chart 2.6 to correct them.

REPAIRING EYEGASSES

General Approach

If frame is plastic:

- Heat it before bending.
- Do NOT try to bend if plastic is old and discolored or has many fine cracks. It will break.

Hinge Bolt Missing

This bolt holds the hinge together.

[1] Count the number of barrels that make up the hinge (5 or 7).

[2] Select the proper bolt:

- A red dot bolt has a large red head and a plastic "bushing." Remove old bushing from hinge before you put new one in.
- The 5 barrel bolt is shorter than the 7.

[3] Put in the correct bolt. Do NOT tighten too much or it will strip the threads!

[4] If the only bolt you have is too long, after it is in, cut the end off with the cutting nipper.

[5] "Head over" (flatten, "peen") the end of new bolt to prevent loss.

Lens Fell Out

If Plastic Frame

[1] Heat the eyewire until it is *just* pliable.

[2] Hold with temples toward you.

[3] If there is a pointed end of the lens, put that end far away from you and put that end in first.

[4] Snap the lens in while frame is still hot:

- Push the edge of lens with your thumbs. Pull eyewire with your fingers.
- Squeeze around eyewire with your fingers to be sure lens is in.

[5] Dip into room temperature water.

Chart 2.6

Common Eyeglass Adjustment Problems and Plans

Problem	Plan	Equipment
Front of glasses not straight. Glasses tilt on face.	Do what will make the best fit: Bend DOWN the temple that is on the lowest side, or Bend UP the temple on the highest side.	Hinge gripper plier.
Temples touch head in front of ears —or— Temples are too tight.	Bow the temples so they do NOT touch head until they reach top of ears. Then, they should conform to head. If necessary, file ends of temples just enough to remove pressure.	Frame warmer. Zylonite file or Pillar file.
Temple does not start to bend at top of ear.	Straighten the temple. Place on ear to be sure where new bend should start. Bend the temple at a 45° angle. Bend temples to conform to head behind ears.	Frame warmer.
Nose pads do not sit evenly on nose.	Plastic frame: If possible, heat and bend nose pads. Metal frame: Adjust metal guard arms that hold nose pads.	Frame warmer. Flat and round nose plier.
One lens is closer to the eye than the other.	Do what will make the best fit: Bend <i>in</i> the endpiece of the front that is on the close side, or File the end of the temple that is on the side further out.	Hinge gripper plier. Zylonite file or Pillar file.
Both lenses are too close to eyes. Eyelashes rub on lenses	Do what will make the best fit: Adjust a plastic bridge (Usually needs to be more narrow: heat/push together) Bend temples to fit well behind ears. Push nose pads closer together.	Frame warmer. Flat and round nose plier.
Both lenses are too far from eyes.	Do what will make the best fit: Adjust a plastic bridge (Usually needs to be made wider: heat and stretch). Bend temples to fit well behind ears. Push nose pads further apart.	Frame warmer. Flat and round nose plier.
Bottoms of eyewires touch cheeks.	Reduce the 7° angle shown in 1.6 to 0°. Bend <i>up</i> both temples the same. Use even pressure. Check angle often.	Hinge gripper plier.
Temples too tight behind ears.	Bend temples to properly conform to head behind the ears.	Frame warmer. Flat and round nose plier.
Nose pad presses too hard on nose.	Check to see that both pads sit evenly on the nose. Bend the <i>other</i> pad away from the nose.	Flat and round nose plier or Frame warmer.
Glasses slide down the nose.	Adjust nose pads for proper fit. Next, bend temples to properly conform to head behind ears. If still needed, bend <i>in</i> the endpieces of the front.	Frame warmer. Flat and round nose plier. Hinge gripper plier.

If Metal Frame

- [1]** If necessary, remove any trim on the eyewire.
- [2]** Unscrew the eye wire bolt that holds in lens.
- [3]** Put lens back in.
- [4]** Tighten eye wire bolt with care!

Frame Bent

If Plastic Frame

- [1]** The plastic should be clear. Do NOT try to bend if plastic is old and yellow. It will crack.
- [2]** Heat in frame warmer before bending.

If Metal Frame

- [1]** Bend with hands.
- [2]** Use plier if needed.

Plastic Damaged

- May be scratched, bitten, burned, or damaged in similar way.
- [1]** Use the smooth file on rough area.
 - [2]** Use the emery cloth to make it smoother.
 - [3]** Use a cotton-tipped applicator to put a light coat of acetone on the part you have filed.

Lens Cracked/Broken

- Do NOT heat the frame.
- [1]** Wrap lens in a piece of cloth.
 - [2]** Break lens out of frame with a small hammer.
 - [3]** Replace lens or mail in for replacement.

Frame Snapped (Broken)

If Plastic Frame

- [1]** Roughen the broken ends with your file.

- [2]** Join the ends.
 - With epoxy glue:
 - ☐ Put a little bit of glue on each piece.
 - ☐ Join the two pieces.
 - With acetone:
 - ☐ Soak both broken ends in a small amount (the lid) of acetone for 3-5 minutes.
 - ☐ Hold both ends together until the acetone joins them.
- [3]** Let the glasses sit for 24 hours if possible.
- [4]** Smooth rough edges with a file, emery cloth, and acetone.

If Metal Frame

- [1]** Send it out for repairs.

Hinge Broken

- [1]** Make sure you have another hinge to replace the broken one.
 - [2]** Take the hinge apart, so you only have to work with the broken front or temple.
 - [3]** Use the fine file to file off the top of the rivets on the broken part.
 - [4]** Use pliers to gently pull the hinge away from the frame.
 - [5]** Remove the rivets/shield:
 - Push part way out from the side you filed.
 - Next, use pliers or the cutting nipper to gently pull (NOT cut) it out.
 - [6]** Put new rivets/shield in through outside of frame.
 - [7]** Replace the hinge.
 - [8]** Use the nipper to cut off ends of rivets/shield. Leave $\frac{1}{16}$ inch.
 - [9]** Use the riveting punch to flatten ends and secure the hinge.
-

DISCHARGE FROM THE VAGINA

Begin here if patient has an abnormal discharge from the vagina (vaginal discharge).

1. History

Talk to the patient in private. If needed:

- Tell parents that it would be better for you to talk with patient alone.
- Remind patient that the visit is confidential.

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] How did the discharge start?

- What does patient think caused the discharge? For example, does she think it might be:

- ☐ V.D. (venereal disease)?
- ☐ something left inside vagina, such as a tampon or other "foreign body"?

- Does discharge seem related to menstrual period?

[2] What is the discharge like?

- What does it look like?
- What does it smell like?
- What does it feel like? Is there any pain or itching?
- How much discharge is there?
 - ☐ is there enough to stain underpants?
 - ☐ does woman need to wear a sanitary pad?

[3] Does patient have other problems of the genitals or urinary system, such as:

- A sore, rash, or growths? *If rash*, has patient used something on genitals that may irritate or cause allergic reaction, including:
 - ☐ medicine: spray, powder, cream, suppository, douche?

- ☐ "bubble bath"?
- ☐ diaphragm or condom (the rubber may cause allergy)?
- History of V.D. (gonorrhea, syphilis, other)?
- Pain with intercourse?
- Cloudy or bloody urine?
- Problems with urinating, such as:
 - ☐ feeling the need to urinate often or rush to the toilet?
 - ☐ pain or burning when urinating? If so, where is the burning (on the skin or inside)?

1.2 Past Health History

[1] Illnesses:

- Diabetes?

[2] Allergies?

[3] Medicines:

- What medicines is patient taking now, including antibiotics?

[4] Sexual history:

- Does a sex partner have V.D., discharge from the penis, or burning when urinating?
- History of oral sex?
- History of intercourse into the anus or rectum (anal intercourse)?

[5] Female history:

- Periods (menstrual history):
 - ☐ any problems related to periods, such as cramping, abnormal bleeding, or spotting blood between periods?
 - ☐ date of first day of last menstrual period (LMP)?
- Birth control:
 - ☐ ask her: "Are you using any birth control now?" If so, what kind (pills, IUD, other)?
 - ☐ ask her: "Could you be pregnant?"
- Pap: Date of last Pap smear.

1.3 Other History

[1] Does patient have any other complaints, such as:

- Fever or chills?
- Sore throat?
- Abdominal pain?

- Problems with the anus (pain, burning, discharge)?
- Joint pain or swelling (arthritis)?
- Skin problem?

2. Exam

2.1 General appearance.

2.2 Vital signs: T, P, R, BP.

2.3 If history of sore throat or oral sex, check:

- Mouth and throat:
 - ☐ appearance.
 - ☐ take throat culture for gonorrhea, if available (p.142).
- Lower jaw and neck:
 - ☐ feel for enlarged lymph nodes. If felt, note size, tenderness, and if movable.

2.4 Abdomen:

- Feel lower abdomen, above pubic bone, for tenderness/lumps.

2.5 Genitals. Wear examination gloves and check the following:

- Genital area & groin:
 - ☐ appearance.
 - ☐ feel for enlarged lymph nodes in the groin. If felt, note size, tenderness, and if movable.
- Labia and outer vagina: Examine closely.
- If adult, insert speculum to see cervix.
- Examine the discharge:
 - ☐ how much is there?
 - ☐ what does it look like (color, clear or cloudy, thick or thin)?
 - ☐ what does it smell like?
 - ☐ take sample for "wet prep," if available. See chart 2.5.

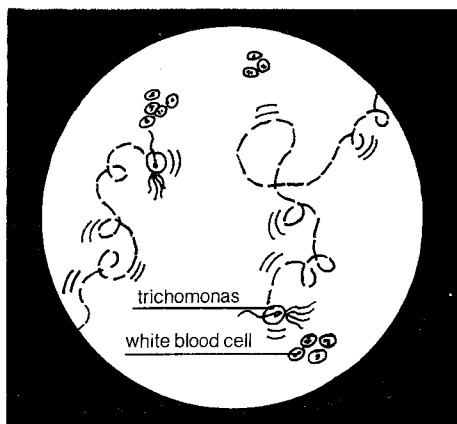
Chart 2.5

DOING A "WET PREP" (Wet Mount) OF DISCHARGE FROM VAGINA

Equipment/supplies needed:

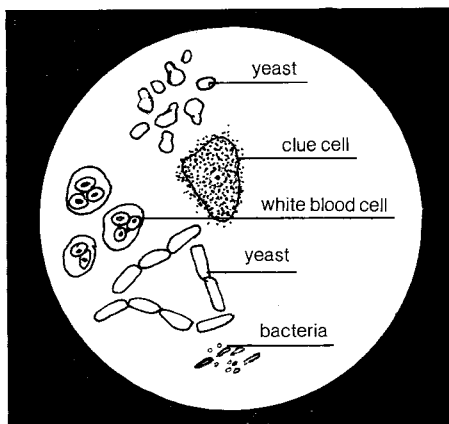
0.9% SODIUM CHLORIDE solution (normal saline), dropper bottle
Test tube (can use red top blood drawing tube)
Q-tip® (cotton tipped applicator)
Glass slide
Coverslip
Microscope

1. Place 3-4 drops of 0.9% SODIUM CHLORIDE solution in test tube.
2. With Q-tip®, take sample of discharge from just under cervix or from tip of speculum blade.
3. Place Q-tip® in test tube, and set aside until your exam is done.
4. Place a drop of the mixture on a glass slide.
5. Cover with a coverslip.
6. Examine at once under low power (10x) of the microscope.
 - Trichomonas:
 - ☐ move ("dance"). May see faint "tail" beating quickly.
 - ☐ round.
 - ☐ a little larger than a white blood cell.



As seen under low power (10x).

7. Examine under higher power (40x).
 - Yeast:
 - ☐ round or oval. Some have "buds."
 - ☐ 1/8 to 1/4 the size of a white blood cell.
 - ☐ may look green, as you focus.
 - ☐ does NOT move.
 - Clue cell (from Gardnerella):
 - ☐ much larger than a white blood cell.
 - ☐ an epithelial cell that looks like "ground glass"; edges are ragged, from lots of bacteria.



As seen under higher power (40x).

- Take culture for gonorrhea, if available (p.141).
- Do a Pap smear, if due.
- Look at vagina as you remove speculum.
- Feel inside vagina:
 - ☐ lubricate your pointer and middle fingers and insert them.
 - ☐ feel for tenderness/lumps.
 - ☐ find the cervix and feel it.
 - ☐ move the cervix with your two fingers, to check for pain.
 - ☐ feel the uterus.
 - ☐ feel the right and left ovaries.

2.6 Anus and Rectum:

- If history of problems, examine appearance of anus.
- If history of discharge or anal intercourse, do rectal culture for gonorrhea, if available (p.142).

2.7 Lab tests:

- Examine "wet prep" of vaginal discharge.
- Incubate culture(s) for Gonorrhea (p.142).
- RPR blood test for syphilis (red top tube).

3. Assessment

3.1 Your assessment should be:

Vaginal discharge.

3.2 Make a more specific assessment. Use chart 3.2.

Chart 3.2

Abnormal Discharge from the Vagina: Some Assessments and Typical Findings

Assessment	History	Exam
GONORRHEA [GC, "clap"; infection caused by <i>Neisseria gonorrhea</i> bacteria; spread by sexual contact] (Plan: p.137)	Discharge: Started 2-8 days after sexual contact; as described under "Exam." May have: Pain with intercourse; the need to urinate often or rush to toilet; pain when urinating; abnormal menstrual bleeding; anus pain, burning, or discharge. With more widespread infection, may have: fever, chills; abdominal pain, cramping; joint pain; rash.	May have fever. <i>Throat:</i> May be red. Discharge from urethra, vagina, cervix, or anus: green or yellow. Moving cervix may be very painful. Wet prep: A lot of white blood cells seen. Gonorrhea culture: Positive.

Chart 3.2

Abnormal Discharge from the Vagina: Some Assessments and Typical Findings (continued)

Assessment	History	Exam
CHLAMYDIA [infection caused by <i>Chlamydia trachomatis</i> , similar to bacteria; common cause of non-gonococcal urethritis or vaginitis (NGU or NGV); spread by sexual contact] (Plan: p.138)	Symptoms may go away for a while, then come back. Discharge: Started 2 wks. after sexual contact; as described under "Exam." May have: Pain with intercourse; the need to urinate often or rush to toilet; pain when urinating; abnormal menstrual bleeding. With more widespread infection, may have: fever; abdominal pain, cramping.	May have fever. Discharge: White to yellow; cloudy, like pus. Cervix may be red & swollen, bleed easily, and have erosion, an "eating away" of tissue. Moving cervix may be very painful. Wet prep: A lot of white blood cells seen.
TRICHOMONAS [infection caused by <i>Trichomonas vaginalis</i> , a 1-celled animal; spread by sexual contact] (Plan 4.1)	Discharge: A lot, as described under "Exam"; may get worse with or just after period. May have some itching/burning in genital area. May have pain on intercourse; burning on skin when urinating. Often has history of Trichomonas, with partner NOT treated.	Labia may be inflamed (tender, warm, red, swollen). Cervix and vagina: Mucous membranes often red; may have tiny red "strawberry spots" like bleeding points inside the tissue; cervix may bleed easily and have "erosion", an "eating away" of tissue. Discharge: A lot; yellow to green, or grey; cloudy; thin, frothy (bubbly); smells foul. Moving cervix is NOT painful. Wet prep: Trichomonas seen.
YEAST [candida, monilia; infection caused by a fungus; may be spread by sexual contact] (Plan 4.2)	Discharge, as described under "Exam." Often has rash in genital area with itching/burning skin; may get worse just before period. May have pain on intercourse; burning on skin when urinating. May have history of diabetes, pregnancy, taking birth control pills or antibiotics.	Genital area may have rash: <ul style="list-style-type: none"> • Worse in moist areas. • Inflamed skin (tender, warm, red, swollen). • May have a few small pimples at edges of rash. Discharge: White; creamy, thick, like cottage cheese; on labia and in patches on cervix & vagina; may smell like yeast. Vagina: Mucous membranes are red. Moving cervix is NOT painful. Wet prep: May see yeast.
GARDNERELLA [bacteria that used to be called Hemophilus vaginalis; one cause of nonspecific vaginitis (NSV); may be spread by sexual contact] (Plan 4.3)	Discharge, as described under "Exam." May have some itching/burning in genital area.	Cervix and vagina: Mucous membranes are NOT red or irritated. Discharge: May have a lot; white or grey-green; cloudy; may be thick or thin and watery; smells like fish. Moving cervix is NOT painful. Wet prep: Clue cells seen.
FOREIGN BODY (Plan 4.4)	Discharge, as described under "Exam." Usually not much itching.	Discharge: Smells foul. Vagina: Foreign body found, such as tampon, prophylactic (rubber). Moving cervix is NOT painful.

Chart 3.2

Abnormal Discharge from the Vagina: Some Assessments and Typical Findings (continued)

Assessment	History	Exam
IRRITATION OR ALLERGY [contact dermatitis; caused by contact with something that irritates or causes allergic reaction] (Plan 4.5)	Discharge, as described under "Exam." Skin itches in genital area; may burn. History of using something around vagina that may irritate or cause allergic reaction.	Genital area with allergic rash: • Inflamed skin (tender, warm, red, swollen). • May have some pinhead size blisters that break, ooze, and form crusts as they dry. • Often small scabs from scratching too hard. Discharge: Not much. Maybe an increase in normal vaginal discharge. Cervix and vagina: Usually normal; moving cervix is NOT painful.

3.3 Include in your assessment that the vaginal discharge may be caused by one of the following:

- **Gonorrhea** (Plan: p.137).
- **Chlamydia** (Plan: p.138).
- **Trichomonas** (Plan 4.1).
- **Yeast** (Plan 4.2).
- **Gardnerella** (Plan 4.3).
- **Foreign body** (Plan 4.4).
- **Irritation or allergy** (Plan 4.5).
- **Other or unknown cause of vaginal discharge** (Plan 4.6).

4. Plan

4.1 Plan: Trichomonas

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- *Always report if patient is a child.*
- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.1.

[3] Medicine should include:

- For most patients:

Give adult **METRONIDAZOLE** (Flagyl®; 250 mg. tablets).

- Do NOT give to pregnant woman.
- **Dose: 2.0 Gm. (8 tablets)** by mouth. Tell patient to take the tablets all at once, with food, to avoid upset stomach.

- Tell patient to avoid alcohol for 2 days after taking the drug or patient may get nausea, vomiting, headache.

- *If pregnant*, doctor will probably suggest CLOTRIMAZOLE, the same as for treating yeast (Plan 4.2).

[4] Treat patient's sex partners for Trichomonas if they come to clinic:

- Get history and examine for other STD (p.133).
- Give METRONIDAZOLE medicine as above.

Chart 4.1

Patient Education TRICHOMONAS

1. Tell your sex partners (men and women) within the last 30 days:
 - They have been exposed to Trichomonas and should go to the clinic to be treated.
 - Even with no symptoms, they can have Trichomonas and infect others.
2. Do NOT have sex until your sex partners have also been treated, or you will get Trichomonas again.
3. Follow other guidelines for "General Care of the Genitals," p.140.

[5] Recheck as follows:

- Recheck only if needed. Tell patient to return to clinic in one week if discharge is still there, sooner if having problems.
- *If patient still has discharge or other symptoms:*
 - ☐ ask patient if sex partners have been treated.
 - ☐ examine the genitals and discharge.
 - ☐ report to your referral doctor. He may suggest giving medicines for chlamydia also (p.138).

4.2 Plan: Yeast

[1] Get additional information as follows:

- Does patient have symptoms of diabetes, such as being very thirsty or urinating more than normal? *If so:*
 - ☐ check blood sugar (glucose).
 - ☐ if you can NOT check blood sugar, do urine dipstick for sugar.

[2] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- *Always report if:*
 - ☐ patient recently had the same problem.
 - ☐ rash is severe.
 - ☐ possible diabetes.
- While you are waiting to report, follow this plan.

[3] Patient education should include the following:

- Yeast grows where it is moist, so patient should be sure to keep the genital area dry.
- Give information about "General Care of the Genitals," p.140.

[4] Medicine should include:

- For vaginal discharge:

Medicines are listed in order of recommended treatment. Give adult **ONE** of the following choices:

1. **CLOTRIMAZOLE** (Gyne Lotrimin®) vaginal cream.
 - Give a 7 day supply.
2. **NYSTATIN** (Mycostatin®, Nilstat®) vaginal suppositories.
 - Give a 14 day (two week) supply.

- Patient should insert **one applicatorful or one suppository deep into the vagina at bedtime** (picture, p.439).
- Tell patient to continue the medicine until it is finished, including during menstrual period.
- Tell patient that it is OK to have intercourse while on medicine. The medicine will treat the sex partner as well.
- *If rash:*

Give **CLOTRIMAZOLE** (Gyne-Lotrimin®) vaginal cream or **NYSTATIN** (Mycostatin®, Nilstat®) cream:

- Patient should first wash and dry well.
- Patient should apply cream **two or three times a day and continue for 1 week after rash is gone.**

[5] Recheck as follows:

- Recheck only if needed. Tell patient to return to clinic in 1 week if discharge or rash is still there, sooner if having problems.

- *If patient still has discharge, rash, or other symptoms:*
 - ☐ examine the genitals and discharge.
 - ☐ your referral doctor may suggest blood sugar (glucose) test to check for diabetes, or treating sex partners as well.

4.3 Plan: Gardnerella

- [1] Report** to your referral doctor, unless he has signed for you to treat this problem without contacting him.
- *Always report if patient is a child.*
 - While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.3:

Chart 4.3 Patient Education GARDNERELLA

1. Gardnerella is usually not treated unless it bothers you or your sex partner.
2. If Gardnerella bothers you:
 - Tell your sex partners (men and women) within the last 30 days that they have been exposed to Gardnerella and they should go to the clinic to be treated.
 - Do NOT have sex until your sex partners have also been treated, or you will get Gardnerella again.
3. Follow other guidelines for "General Care of the Genitals," p.140.

[3] Medicine should be given if Gardnerella bothers patient or a sex partner:

Give **METRONIDAZOLE** (Flagyl®; 250 mg. tablets).

- Do NOT give to pregnant woman.
- **Dose: 500 mg. (2 tablets) by mouth two times a day for 5 days.**

[4] Treat patient's sex partners for Gardnerella if recommended by your referral doctor:

- Get history and examine for other STD (p.133).
- Give METRONIDAZOLE medicine as above.

[5] Recheck as follows:

- Recheck only if needed. Tell patient to return to clinic in 1 week if discharge is still there, sooner if having problems.
- *If patient still has discharge or other symptoms:*
 - ☐ ask patient if sex partners have been treated.
 - ☐ examine the genitals and discharge.
 - ☐ report to your referral doctor. He may suggest giving medicines for chlamydia also (p.138).

4.4 Plan: Foreign Body

[1] Remove the foreign body, if possible. If needed, use long forceps, clamp, or needle holder.

[2] Patient education should include the following:

- Reassure the woman that the foul-smelling discharge will now stop.
- Give information about "General Care of the Genitals," p.140.

[3] Recheck as follows:

- Recheck only if needed. Tell patient to return to clinic in 2-3 days IF NOT feeling better, sooner if feeling worse.
- Report to your referral doctor.

4.5 Plan: Irritation or Allergy

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- *Always report if:*
 - ☐ rash is severe.
 - ☐ skin may be infected (getting more tender, warm, red, swollen; pus seen; enlarged, tender lymph nodes).
- While you are waiting to report, follow this plan.

[2] Patient education should include information about "General Care of the Genitals," p.140.

[3] Other plan is the same as for this skin problem on other areas of the body. Go to p.326, "Plan: Dermatitis."

4.6 Plan: Other or Unknown Cause of Vaginal Discharge

[1] Report to your referral doctor. **If you can NOT reach a doctor,** follow this plan until you can.

[2] Consider other assessments that you can treat:

- If woman has low abdominal pain and if moving the cervix hurts, treat for infection in fallopian tubes (PID, *Pelvic Inflammatory Disease*). Now go to p.137 ("If woman has low abdominal pain").
- If cervix is red and bleeds easily or if gonorrhea culture NOT available, your referral doctor may suggest that you treat for Chlamydia and gonorrhea by giving TETRACYCLINE as on p.138.

[3] Patient education should include information about "General Care of the Genitals," p.140.

[4] Treat patient's sex partners if recommended by your referral doctor.

[5] Recheck as follows:

- Recheck at these times:
 - ☐ in one day if patient looks sick or has fever.
 - ☐ in 2-3 days, sooner if patient is feeling worse.
 - ☐ in 2 weeks.
- Examine:
 - ☐ vital signs: T, P.
 - ☐ genitals.
- Report to your referral doctor.

MENSTRUAL COMPLAINTS

Begin here if woman has chief complaint related to periods (menstrual history), including:

- Periods just beginning (menarche).
- Periods are irregular.
- Period is late or missed.
- Abnormal bleeding.
 - ☐ if severe bleeding, give emergency care as in Plan 4.3.
- Menstrual cramps.
- Menopause (change of life).

1. History

Talk to the woman in private. If needed:

- Tell parents that it would be better for you to talk with patient alone.
- Remind patient that the visit is confidential.

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Female history:

- Periods (menstrual history):
 - ☐ age when periods started?
 - ☐ how many days from first day of one period to first day of next period? Do periods come regularly, every 26-30 days?
 - ☐ how many days do periods last?
 - ☐ how much flow/bleeding is there:
 - heavy, medium, or light?
 - how many pads or tampons does she use in a day? Are they filled with blood or not?
 - ☐ any other problems related to periods, such as cramping, swelling or weight gain, abnormal bleeding or spotting blood between periods?
 - ☐ date of first day of last menstrual period (LMP)? Was it normal? *If NOT normal:*
 - in what way was it abnormal?
 - when was her last *normal* menstrual period (LNMP)?

- ☐ if menopause, any spotting blood since then?
- Birth control:
 - ☐ ask her: "Are you using any birth control now?" If so:
 - what kind (pills, IUD, other)?
 - if using pills, has she missed any?
 - ☐ ask her: "Could you be pregnant?" *If pregnant*, now go to the prenatal care section of this Manual (p.150).
 - ☐ any problems with birth control in the past?
- Pregnancies: Has she had a baby within the last 6 weeks? *If so*, now go to p.176, "Care of Mother After Delivery."
- Pap: Date of last Pap smear.
- [2] Does patient have other problems of the genitals or urinary system, such as:**
 - A sore, rash, or growth?
 - Discharge?
 - History of V.D. (gonorrhea, syphilis, other)?
 - Pain with intercourse?
 - Cloudy or bloody urine?
 - Problems with urinating, such as:
 - ☐ feeling the need to urinate often or rush to the toilet?
 - ☐ pain or burning when urinating? *If so*, where is the burning (on the skin or inside)?
- Back pain, in kidney area?

1.2 Past Health History

[1] Illnesses:

- Diabetes?
- Thyroid disease?
- Infection in fallopian tubes (PID, *Pelvic Inflammatory Disease*)?

[2] Medicines:

- What medicines is patient taking now?

[3] Sexual history:

- Does a sex partner have V.D. (venereal disease), discharge from the penis, or burning when urinating?

1.3 Other History

[1] Does patient have any other complaints, such as:

- Fever or chills?

- Weight change?
- Tender breasts?
- Nausea or vomiting?
- Abdominal pain?
- Mental health problem, such as feeling very tired, sad, or irritable?

2. Exam

Do a screening physical exam (p.368). Also check the following:

2.1 Genitals. Wear examination gloves and check the following:

- Genital area & groin.
 - ☐ appearance.
 - ☐ feel for enlarged lymph nodes in the groin. If felt, note size, tenderness, and if movable.
- Labia and outer vagina: Examine closely.
- Insert speculum to see cervix.
- If discharge, examine and take sample for "wet prep," if available (p.115).
- Take culture for gonorrhea, if available (p.142).
- Do a Pap smear, if needed.
- Look at vagina as you remove speculum.
- Feel inside vagina.
 - ☐ lubricate your pointer and middle fingers and insert them.
 - ☐ feel for tenderness/lumps.
 - ☐ find the cervix and feel it.
 - ☐ move the cervix with your two fingers, to check for pain.
 - ☐ feel the uterus.
 - ☐ feel the right and left ovaries.

2.2 Lab tests:

- Hemoglobin.
- *If pain or burning when urinating*, do urine dipstick for infection (leukocytes/white blood cells or nitrite).
- *If possible pregnancy*, do pregnancy test.
- Incubate culture for gonorrhea (p.142).

3. Assessment

3.1 Your assessment should be:

Menstrual complaint.

3.2 Make a more specific assessment.

If needed, use the following charts:

- Chart 4.1 "Normal Periods."
- Chart 4.2 "Change of Life."

3.3 Include in your assessment that the menstrual complaint is related to one of the following:

- **Normal periods** (Plan 4.1).
- **Pregnancy** (see p.150, prenatal section of manual).
- **Menopause (change of life)** (Plan 4.2).
- **More bleeding than normal** (Plan 4.3).
- **Abnormal cramps** (Plan 4.4).
- **Other or unknown menstrual problem** (Plan 4.5).

4. Plan

4.1 Plan: Normal Periods

[1] Report to your referral doctor only if you have concerns or questions, or if patient is different from the normal.

- *Always report if* patient is still having periods after age 55.
- While you are waiting to report, follow this plan.

[2] Patient Education should include:

- Reassure patient.
- Give information in chart 4.1.

[3] Recheck as follows:

- Tell patient to return to clinic once a year, sooner if patient education advice is NOT helping or if patient is having other problems.
- Do health surveillance (p.441).

4.2 Plan: Menopause (Change of Life)

[1] Report to your referral doctor only if you have concerns or questions, or if patient is different from the normal.

- *Always report if* patient has:
 - ☐ menopause before age 40.
 - ☐ vaginal bleeding or spotting after periods have been stopped for 12 months or more.
- While you are waiting to report, follow this plan.

[2] Patient Education should include the following:

- Reassure patient.
- Give information in chart 4.2.

[3] Support the patient at each visit.

- Help the patient to talk about her problems and feelings.
 - ☐ follow general guidelines for talking and counseling (p.219).

[4] Other plan may include the following:

- If needed, to make intercourse feel better, encourage patient to do Kegel exercises 2-3 times a day (p.157).
- For birth control, advise foam and condoms (p.147) until periods have stopped for 12 months.
- Other plan depends on your referral doctor's assessment. Medicine may include:
 - ☐ ESTROGEN cream, if dry, itchy, thin vaginal mucous membranes.
 - ☐ low dose hormone therapy.
 - ☐ CALCIUM supplements.

[5] Recheck as follows:

- *If on medicine*, recheck as recommended by your referral doctor.
- *If NOT on medicine*:
 - ☐ tell patient to return to clinic once a year, sooner if patient education advice is NOT helping or if patient is having other problems.
 - ☐ do health surveillance (p.441).

4.3 Plan: More Bleeding Than Normal

[1] Give emergency care, if needed.

- Have patient rest, lying down.
- Check vital signs: P, R, BP.
 - ☐ if shock (weak, fast pulse; low BP), now go to p.7.
 - ☐ check P & BP with patient lying down, then sitting up.
 - ☐ treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.
- Get history and examine quickly before you report to your referral doctor or arrange for transport to hospital.

Chart 4.1

**Patient Education
NORMAL PERIODS**

1. *What is a period* (menstrual period, menstruation)? It is a monthly flow of blood and cells from the lining of the uterus (womb). It is part of the menstrual cycle.
2. *What is the menstrual cycle?* It is the time from the beginning of one period to the beginning of the next. During the menstrual cycle, the following things happen:
 - Your brain produces hormones which cause your ovaries to produce and release an egg.
 - Cells in the ovary around the egg produce hormones which cause the lining of your uterus to grow thicker and to get ready for pregnancy.
 - An egg is released (ovulation). Pregnancy is most likely to happen if intercourse takes place any time from a few days before to a few days after the egg is released.
 - If pregnancy does NOT happen, cells in the ovary stop producing hormones. The lining of the uterus dissolves and becomes the menstrual flow (period).
3. *Timing of normal periods:*
 - Start by age 14; after first period, you may skip periods, off and on, for the first year or so.
 - Regular bleeding, every 26-30 days.
 - Last 3-6 days.
 - Stop (menopause) at approximately age 50.
 - What is normal may be different from one woman to another. You should keep a record of your periods. Write down on a calendar:
 - ☐ the first and last day of bleeding, for every period.
 - ☐ any problems, such as spotting blood between periods.

4. *Use of sanitary napkin or tampon:*
 - Sanitary napkin (menstrual pad): Placed outside the vagina; available in several sizes, depending on how much bleeding you have.
 - Tampon: Worn inside the vagina; does NOT harm your virginity; must be changed every 4 hours; wear only one at a time.
5. *Exercise:*
 - It is fine to exercise when you have your period.
 - Women who exercise regularly seem to have less pain during their periods than those who do not.
6. *Pain during midcycle* (mittelschmerz), is usually related to when the egg is released (14 days before period begins):
 - Sudden pain in side of lower abdomen; if it is sharp, it usually gets dull within a few hours; may be made worse by straining or coughing; lasts a few hours to two days; may recur.
 - Treatment is the same as for pain during periods.
7. *Spotting during midcycle* is usually related to hormone changes:
 - Lasts less than two days.
 - Does not need treatment.
8. *Menstrual cramps* (dysmenorrhea), pains that recur monthly, beginning 1-2 years after periods first start:
 - Cramps in low abdomen, low back, thighs; start 12-24 hours before period begins; last 1-2 days; you may have a headache, nausea, vomiting, a tired or irritable feeling, abdominal swelling.
 - Treatment may include aspirin, beginning 2-3 days before period begins, or acetaminophen (Tylenol®); warm packs to the low abdomen.

- Often cramps get less after a few years or after having a baby.
 - If pain is severe or lasts longer than 2 days, see your CHA/P.
9. *Swelling* when your period is due is caused by your body holding too much fluid:
 - Diet: Avoid salt for 7-10 days before your period starts.
 - ☐ avoid eating salty foods.
 - ☐ do NOT add salt to foods.
 10. *Premenstrual syndrome*, recurrent symptoms that may happen any time from midcycle to when your period starts:
 - Symptoms may include any of the following: headache; swelling of hands and ankles; craving for sweets; abdominal swelling; constipation; menstrual cramps; breast swelling and tenderness; tired, sad, or irritable feeling.
 - Treatment, in addition to advice above for similar problems, may include:
 - ☐ diet: ask your doctor for the latest advice.
 - ☐ for your mental health: explain the problem to your family and friends, so they understand; talk to someone who will understand and support you.

Chart 4.2

**Patient Education
MENOPAUSE
(CHANGE OF LIFE)**

1. *What is menopause?* It is the time in life when periods stop. It happens because the ovaries stop producing eggs and the hormone estrogen.
2. *Symptoms* around this time (which last six months to two years):
 - Often are from lack of the hormone estrogen; may be different from one woman to another.

- May include:
 - ☐ easy weight gain.
 - ☐ hot flashes and sweating.
 - ☐ periods that become irregular before they stop completely.
 - ☐ dry, itchy vagina; pain with intercourse.
 - ☐ mental health problems, such as feeling tired, sad, irritable, nervous.
- 3. **Warning:** If you have bleeding after your periods have stopped for 1 year, see your CHA/P. This bleeding could be a sign of cancer of the uterus (womb), which may be cured if found early.
- 4. Even though your periods have stopped:
 - Examine your breasts once a month.
 - Get Pap smear once a year, for health surveillance.
 - Continue birth control for one year after periods have stopped. Your CHA/P can advise you on birth control methods.
- 5. Avoid smoking!
- 6. Exercise regularly:
 - Exercise helps many things including your weight, heart and circulation, bones, and mental health.
 - Plan to walk or get other exercise for 20 minutes, at least 3 times a week.
 - ☐ try not to get short of breath.
 - ☐ consult your doctor before starting.
- 7. **Diet:** Eat a well-balanced diet, with servings from the four food groups every day.
- 8. For your mental health:
 - Find things to do! Being active will help to ease the symptoms of menopause.
 - Explain the problem to your family and friends, so they understand.
 - Talk to someone who will understand and support you.
- 9. For pain on intercourse, it may help to use lubricant jelly (K-Y®, Lubafax®).

[2] Report to your referral doctor.
If you can NOT reach a doctor,
 follow this plan until you can.

[3] If possible pregnancy, now go to p.159, plan for bleeding "If in First 25 Weeks of Pregnancy."

[4] If bleeding is light, do the following:

- Reassure the woman.
- *If woman has low abdominal pain* or if moving the cervix hurts, the plan depends on your referral doctor's assessment:
 - ☐ he may suggest that you treat for infection in fallopian tubes (PID, p.137, "If woman has low abdominal pain").
 - ☐ he may suggest that you transport to hospital if possible ectopic pregnancy (pregnancy in fallopian tube, p.160).
- *If bleeding seems to be mainly from the cervix* (if cervix is red & swollen, bleeds easily, and has erosion, an "eating away" of tissue), treat for chlamydia. Now go to p.138.
- *If woman takes birth control pills,* this is probably a minor problem.
 - ☐ advise her to continue to take the pills, as directed.
 - ☐ other plan depends on your doctor's assessment and may include changing to another kind of birth control pill, if the problem continues.
- *If hemoglobin is less than 12,* treat for anemia with iron medicine (p.26, "Give FERROUS SULFATE").
- Other plan depends on your doctor's assessment and may include:
 - ☐ if woman has IUD, it may need to be removed.
 - ☐ recheck at times recommended by your referral doctor, sooner if bleeding gets worse.

[5] If bleeding is heavy, do the following:

- If you think patient needs emergency care at the hospital, and you can NOT reach a doctor, have someone arrange for transport.

- Stay nearby.
- Activity: Little or none. Patient should rest, quiet in bed.
- Recheck vital signs often:
 - ☐ check P & BP with patient lying down, then sitting up.
 - ☐ treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.

4.4 Plan: Abnormal Cramps

[1] Report to your referral doctor.
If you can NOT reach a doctor,
 follow this plan until you can.

[2] Consider other assessments that you can treat:

- If vaginal discharge and if moving the cervix hurts, treat for infection in fallopian tubes (PID, Pelvic Inflammatory Disease). Now go to p.137, "If woman has low abdominal pain."
- If woman's period was late and she has abnormal vaginal bleeding in addition to cramps, consider that the assessment is "ectopic pregnancy" (pregnancy in fallopian tube, p.160).
- If woman looks very sick, consider that the assessment is "acute abdomen" (p.65).

[3] Patient Education should include information on menstrual cramps in chart 4.1, "Normal Periods."

[4] Other plan depends on your doctor's assessment and may include:

- If patient has IUD, it may need to be removed.
- For pain, if ASPIRIN or ACETAMINOPHEN (Tylenol®) is not helping, doctor may suggest a different pain medicine or birth control pills.

4.5 Plan: Other or Unknown Menstrual Problem

This plan includes irregular periods or missed period.

[1] Report to your referral doctor.
If you can NOT reach a doctor, while you are waiting:

- If woman's period was late and she has abnormal vaginal bleeding and pain in the low abdomen, consider that the assessment is "ectopic pregnancy" (pregnancy in fallopian tube, p.160).
- For general patient education, go to chart 4.1, "Normal Periods."
- *If possible pregnancy*, plan to repeat pregnancy test in 1 week.

URINARY COMPLAINTS

Begin here if patient has chief complaint related to urine problems, including:

- Cloudy or bloody urine.
- Pain or burning when urinating.
- Urinating more or less often than normal.
- Difficulty urinating or can NOT urinate.
- Urinating when patient does NOT want to, including bedwetting.

1. History

Talk to the patient in private. If needed, tell parents that it would be better for you to talk with patient alone, especially a teenager.

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Does patient have other problems of the genitals or urinary system, such as:

- A sore, rash, or growth on genitals?
- Discharge? *If male with discharge from penis*, now go to p.133, "Sexually Transmitted Diseases."
- History of V.D. (gonorrhea, syphilis, other)?
- Pain with intercourse?
- Cloudy or bloody urine?

- Feeling the need to urinate often (frequency)?
 - ☐ if so, does patient get up at night more often than usual?
- Feeling the need to rush to the toilet (urgency)?
- Pain or burning when urinating? If so, where is the burning (on the skin or inside)?
- Difficulty urinating or unable to urinate? If so:
 - ☐ does it take a long time to *start* urinating?
 - ☐ what is the stream of urine like (strong, weak, dribbling)?
 - ☐ when was the last time patient urinated?
- Urinating when patient does NOT want to (incontinence)? If so:
 - ☐ how much urine is lost each time?
 - ☐ is the urine lost all at once or does it dribble out all of the time?
 - ☐ does the problem bother or embarrass the patient?
 - ☐ *if bedwetting*:
 - is this a recent problem?
 - what is patient's usual stream of urine like (strong, weak, dribbling)?
 - is there a family history of bedwetting?
- Back pain, in kidney area?
- History of other problems with urinary system, such as:
 - ☐ kidney disease?
 - ☐ kidney stones?
 - ☐ infections?
 - ☐ large prostate gland?

1.2 Past Health History

[1] Illnesses?

[2] Medicines:

- What medicines is patient taking now?

[3] Sexual history:

- Does a sex partner have V.D.(venereal disease), discharge from the penis or vagina, or burning when urinating?

[4] If a woman, get female history:

- Periods (menstrual history):
 - ☐ date of first day of last menstrual period (LMP)? Was it normal?
- Birth control:
 - ☐ ask her: "Are you using any birth control now?" If so, what kind?

- ☐ ask her: "Could you be pregnant?"

- Past pregnancies:
 - ☐ number of pregnancies?

1.3 Other History

[1] Does patient have any other complaints, such as:

- Fever or chills?
- Nausea or vomiting?

[2] Family health history: Does any close relative have kidney disease?

2. Exam

2.1 General appearance.

2.2 Vital signs: T, P, R, BP.

2.3 Back:

- Hit gently in each kidney area to check for tenderness. If NOT tender, hit a little harder (CVA tenderness, p.389).

2.4 Abdomen:

- Appearance.
- Feel lower abdomen, above pubic bone, for tenderness/lumps.

2.5 Female Genitals. Wear examination gloves and check the following:

- Genital area & groin.
 - ☐ appearance.
 - ☐ feel for enlarged lymph nodes in the groin. If felt, note size, tenderness, and if movable.
- Labia and outer vagina: Examine closely.
- *If abdominal pain or vaginal discharge*, examine further:
 - ☐ if adult, insert speculum to see cervix.
 - ☐ if discharge, examine and take sample for "wet prep," if available (p.115).
 - ☐ take culture for gonorrhea, if available (p.142).
 - ☐ do a Pap smear, if needed.
 - ☐ look at vagina as you remove speculum.
 - ☐ if adult, feel inside vagina:
 - lubricate your pointer and middle fingers and insert them.
 - feel for tenderness/lumps.
 - find the cervix and feel it.
 - move the cervix with your two fingers.

- feel the uterus.
- feel the right and left ovaries.

2.6 Male Genitals. Wear examination gloves and check the following:

- Genital Area & Groin:
 - ☐ appearance.
 - ☐ feel for enlarged lymph nodes in the groin. If felt, note size, tenderness, and if movable.
- Scrotum:
 - ☐ appearance.
 - ☐ feel within the scrotum:
 - testicle and nearby area.

- cord (spermatic cord).

- Penis.
- If pain in low abdomen, groin, or scrotum, feel for hernias.
- If pain or burning when urinating, test for gonorrhea (p.141).
 - ☐ make smear on slide.
 - ☐ take culture, if available.

2.7 Skin.

2.8 Lab tests:

- Urine dipstick for:
 - ☐ infection (leukocytes/white blood cells or nitrite).

- ☐ protein.
- ☐ glucose (sugar).
- ☐ blood.
- ☐ if *dark urine* and possible yellow color of skin (jaundice), also check for bilirubin (bile).

3. Assessment

3.1 Your assessment should be:

Urinary complaint.

3.2 Make a more specific assessment. Use chart 3.2.

Chart 3.2

Urinary Complaints: Some Assessments and Typical Findings

Assessment	History	Exam
URINARY TRACT INFECTION [UTI] (Plan 4.1)	<i>If a child</i> , complaints may only be: fussy, fever. Usually a woman. Feels need to urinate often or rush to toilet. Pain or burning when urinating. May see blood in urine. <i>If kidney infection</i> , may have fever, chills; back (kidney) pain; nausea and vomiting.	May have mild tenderness above pubic bone (over bladder). <i>If kidney infection</i> , may have fever, back tenderness in kidney area. Urine: <ul style="list-style-type: none"> • May be cloudy. • Dipstick: Positive for infection (leukocytes/white blood cells or nitrite); may be positive for blood.
DIFFICULTY URINATING OR UNABLE TO URINATE (Plan 4.2)	Usually older man with history of large prostate: <ul style="list-style-type: none"> • Difficulty <i>starting</i> to urinate. • Weak stream of urine; dribbling. • Feels need to urinate often. Sudden pains that come and go, above pubic bone. May have history of kidney stones.	Tenderness above pubic bone (over bladder), makes patient want to urinate.
URINATING WHEN PATIENT DOES NOT WANT TO [incontinence] (Plan 4.3)	May be child with bedwetting. Often is a woman who has had children: <ul style="list-style-type: none"> • Urine leaks out when coughing, sneezing, or straining. 	Woman's vagina: Abnormal bulge may be seen from ceiling of vagina (cystocele), if muscles have relaxed and bladder is pushed down.
POSSIBLE KIDNEY STONE [stone passing from kidney through ureter; may pass into bladder and out urethra] (Plan: p.68)	Back or abdominal pain: <ul style="list-style-type: none"> • May be severe. • Often goes to genital area, groin, thigh, or testicle. • Sharp, crampy; may come and go. May have history of blood in urine or passing "gravel." May also have symptoms of urinary tract infection. May have nausea and vomiting.	<i>Back:</i> Tenderness in kidney area. <i>Abdomen:</i> Tenderness, but NOT rebound (does NOT hurt more when you quickly let go). <i>Urine dipstick:</i> positive for blood, protein; may be positive for infection (leukocytes/white blood cells or nitrite).

3.3 Include in your assessment that the urinary complaint is one of the following:

- **Urinary tract infection** (Plan 4.1).
- **Difficulty urinating or can NOT urinate** (Plan 4.2).
- **Urinating when patient does NOT want to** (Plan 4.3).
- **Possible kidney stone** (Plan: p.68).
- **Other or unknown urinary problem** (Plan 4.4).

4. Plan

4.1 Plan: Urinary Tract Infection

[1] Report to your referral doctor, unless he has signed for you to treat this problem in women without contacting him.

- *Always report if:*
 - ☐ patient is a child or a man.
 - ☐ woman looks sick, has fever 101° or more, or has back tenderness in kidney area.
 - ☐ woman is pregnant.
 - ☐ woman has had three or more urinary tract infections in the past 12 months.
- While you are waiting to report, follow this plan.

[2] Patient Education should include information in chart 4.1 A.

[3] Medicine should include an antibiotic. Antibiotics are listed in order of recommended treatment:

- *If adult male:*
 - ☐ treat **for 14 days**. This will treat for prostate infection (prostatitis) as well.
 - ☐ give ONE of the following choices (for doses, see chart 4.1 B):
 - TRIMETHOPRIM/SULFAMETHOXAZOLE (Bactrim®, Septra®).
 - AMPICILLIN.
 - AMOXICILLIN.

- *If patient looks sick, has fever 101° or more, or has back tenderness in kidney area:*

- ☐ treat **for 10 days** for kidney infection (pyelonephritis).
- ☐ give ONE of the following choices (for doses, see chart 4.1 B):
 - TRIMETHOPRIM/SULFAMETHOXAZOLE (Bactrim®, Septra®).
 - AMPICILLIN.
 - AMOXICILLIN.
- *For other patients:*
 - ☐ treat **for 10 days**.
 - ☐ give ONE of the following choices (for doses, see chart 4.1 B):
 - SULFISOXAZOLE (Gantrisin®).
 - AMPICILLIN.
 - AMOXICILLIN.
 - TRIMETHOPRIM/SULFAMETHOXAZOLE (Bactrim®, Septra®).

[4] Recheck as follows:

- Recheck at these times:
 - ☐ in one day if patient looks sick, has fever 101° or more, or has back tenderness in kidney area.
 - ☐ in two days if patient is NOT feeling better, sooner if feeling worse.
 - ☐ three days after patient should finish the antibiotic.
 - ☐ if a child, also recheck in one month and every three months for one year.
- Recheck urine dipstick. *If dipstick is still abnormal* after patient finishes antibiotics, report to your referral doctor.

4.2 Plan: Difficulty Urinating or Can NOT Urinate

[1] Report to your referral doctor. Report NOW if patient can NOT urinate. **If you can NOT reach a doctor**, follow this plan until you can.

[2] Medicine: Do NOT give any until your referral doctor or this manual tells you to. Some medicines can make it more difficult to urinate.

[3] If patient can urinate a little bit, your plan should include the following:

Chart 4.1 A

Patient Education

URINARY TRACT INFECTION

1. Activity: Rest if you feel sick or have fever.
2. Drink lots of liquids. Every day an adult should drink about 6-8 glasses of water or other liquid to help cleanse the bladder.
3. Diet: Avoid things that irritate the bladder:
 - Avoid caffeine: coffee, tea, hot chocolate, cola drinks (p.446).
 - Avoid citric acid, such as orange or grapefruit juice.
 - Avoid alcohol.
 - Avoid spicy foods.
4. If you are uncomfortable, it may help to place warm packs on your lower back while you are resting in bed.
5. It is important to take all of your antibiotic medicine, even after your symptoms are gone.
6. Prevention for women:
 - Avoid sitting in a tub bath.
 - When you are having a menstrual period, instead of using a sanitary napkin (pad), use a tampon, to avoid spreading bacteria. Remember to change the tampon every 4 hours.
 - If you get infections after you have intercourse, the following may help:
 - ☐ place a pillow under your buttocks during intercourse to prevent irritation of your urethra.
 - ☐ try different positions for intercourse, to find the ones that are most comfortable.
 - ☐ urinate soon after intercourse, to wash bacteria out of the urethra.
 - ☐ if you wear a diaphragm for birth control, have your doctor check its fit.
7. Other prevention includes:
 - Urinate often, when you feel the need. Do NOT hold it in for very long.
 - Follow other recommendations "General Care of the Genitals," p.140.

Chart 4.1B

ANTIBIOTICS FOR TREATING URINARY TRACT INFECTION

For recommended choices, see plan 4.1.

AMPICILLIN (250 mg./5 ml. suspension or 250 mg. capsules).
 • **Four times a day for 10-14 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	100 mg. (2 cc.)
15-24 lbs.	4-17 mo.	175 mg. (3½ cc.)
25-49 lbs.	18 mo. thru 6 yrs.	500 mg. (10 cc.)
50 lbs. or more	7 yrs. or more	500 mg. (2 capsules)

AMOXICILLIN (250 mg./5 ml. suspension or 250 mg. capsules).
 • **Three times a day for 10-14 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	75 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	125 mg. (2½ cc.)
25-34 lbs.	18 mo. thru 3 yrs.	175 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	250 mg. (5 cc.)
50 lbs. or more	7 yrs. or more	250 mg. (1 capsule)

SULFISOXAZOLE (Gantrisin®; 500 mg./5 ml. suspension or 500 mg. tablets).
 • If more than 29 weeks pregnant, do NOT give.
 • **Four times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 11 lbs.	Less than 2 mo.	Do NOT give.
11-14 lbs.	2-3 mo.	150 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	300 mg. (3 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	450 mg. (4½ cc.)
35-49 lbs.	4-6 yrs.	500 mg. (5 cc.)
50-59 lbs.	7-8 yrs.	750 mg. (1½ tab.)
60 lbs. or more	9 yrs. or more	1000 mg. (2 tablets)

TRIMETHOPRIM/SULFAMETHOXAZOLE (Bactrim®, Septra®; 40/200 mg./5 ml. suspension or 80/400 mg. tablets).
 • If allergic to SULFA, do NOT give.
 • If more than 29 weeks pregnant, do NOT give.
 • **Two times a day for 10-14 days:**

Weight	Approximate Age	Dose
Less than 11 lbs.	Less than 2 mo.	Do NOT give.
11-14 lbs.	2-3 mo.	20/100 mg. (2½ cc.)
15-24 lbs.	4-17 mo.	40/200 mg. (5 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	60/300 mg. (7½ cc.)
35-49 lbs.	4-6 yrs.	80/400 mg. (10 cc.)
50-89 lbs.	7-11 yrs.	80/400 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	160/800 mg. (2 tablets)

- Patient education:
 - ☐ rest.
 - ☐ urinate often.
 - ☐ it may help patient to urinate while running water from a faucet or sitting in a tub of warm water.
- *If patient has burning when urinating or other findings of a urinary tract infection, treat for urinary tract infection. Now go to Plan 4.1.*

[4] If patient can NOT urinate and is uncomfortable because he has to urinate, your plan should include the following:

- Patient should try to urinate while:
 - ☐ running water from a faucet.
 - ☐ sitting in a tub of warm water with warm packs on lower back.
 - ☐ pouring warm water over the urethra area.
- *If patient still can NOT urinate, and you can NOT reach a doctor:*
 - ☐ arrange for transport to the hospital.
 - ☐ *If you can NOT transport for some reason, let out urine by inserting a temporary catheter into the bladder. See chart 4.2.*

4.3 Plan: Urinating When Patient Does NOT Want To

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] If patient has burning when urinating or other findings of a urinary tract infection, treat for urinary tract infection. Now go to Plan 4.1.

[3] If child with bedwetting, patient education should include information in chart 4.3 A.

[4] If a woman, patient education should include information in chart 4.3 B.

[5] Recheck as follows:

- Recheck at times recommended by your referral doctor, sooner if patient gets symptoms of urinary tract infection:
 - ☐ pain or burning when urinating.
 - ☐ feeling the need to urinate more often or rush to the toilet.

Chart 4.2

INSERTING A TEMPORARY CATHETER INTO THE BLADDER

Do this on adult patient if you have been taught.

Equipment/supplies needed:

Intermittent urinary catheterization kit, including:

- Sterile examination gloves.
- Antiseptic solution (POVIDONE IODINE, Betadyne®).
- Cotton balls.
- Lubricant.
- Size #16 urinary catheter.
- Tray.

1. Open the catheterization kit using sterile technique.
2. Put on the sterile examination gloves.
3. Pour antiseptic solution over the cotton balls.
4. Open lubricant, place lubricant on tip of catheter, and set catheter aside where you can get it easily.
 - Take care to see that nothing touches the sterile catheter.
5. *If a woman*, do the following:
 - With fingers of one hand, spread skin of the labia to see the urethra (urinary opening). Continue to hold the labia apart until you are finished and have removed the catheter.
 - With your other hand, pick up a wet cotton ball and clean the opening of the urethra:
 - ☐ start at the top and wipe down.
 - ☐ repeat with a second cotton ball.
 - Place the tip of the catheter into the urethra. Gently push it in (about 2-3 inches) until urine starts to flow.
6. *If a man*, do the following:
 - Hold the penis in one hand.
 - ☐ hold it straight.
 - ☐ if uncircumcised, pull back the foreskin and hold it

back until you are finished and have removed the catheter.

- With your other hand, pick up a wet cotton ball and wipe the opening of the penis. Repeat with a second cotton ball.
 - Place the tip of the catheter into the urethra. Gently push it in (about 8-10 inches) until urine starts to flow.
 - ☐ it may be difficult to pass the catheter through a certain area. Gently try to push the catheter through this area.
7. Collect urine in the tray provided.
 - Write down how much urine comes out.
 - If more than 1,000 ml. (1 quart) is coming out, or if urine turns bloody, squeeze or clamp the catheter shut for two minutes every 500 ml. (2 cups) or so.
 8. Hold the catheter in place until the urine stops.
 9. Remove the catheter by gently pulling it out.

4.4 Plan: Other or Unknown Urinary Problem.

[1] Report to your referral doctor.
If you can NOT reach a doctor, follow this plan until you can.

[2] Patient education should include the following:

- Activity: Patient should rest if he feels sick, has fever, high blood pressure, or edema (swelling of skin).
- If high blood pressure or edema, include diet advice to avoid salt:
 - ☐ avoid eating salty foods (p.445).
 - ☐ do NOT add salt to foods.

[3] Recheck as follows:

- Recheck in 1 day, sooner if you think patient is ill or if patient is having more problems.
- Repeat exam as needed, including:
 - ☐ vital signs: T, P, R, BP.
 - ☐ urine dipstick.

Chart 4.3 A

Patient Education CHILD WITH BEDWETTING

1. Bedwetting over the age of 6 is not normal.
2. It may be controlled with training:
 - Avoid giving fluids at bed time.
 - Have child urinate before going to bed.
 - Wake the child up at night, to urinate.
 - Praise the child when he is dry.
 - Do NOT punish him for bedwetting.
3. It may help for the child to sleep alone (with no one else in the same bed).

Chart 4.3 B

Patient Education URINATING WHEN YOU DO NOT WANT TO

1. Kegel exercises often help. Do them the same as during pregnancy (p.157).
2. Stay at the right weight. *If you are overweight*, you should slowly lose weight (p.446).
3. Help to prevent urinary tract infections. Prevention includes:
 - Wipe from front to back after urinating or having a bowel movement.

A SORE, RASH, OR GROWTH ON GENITALS

Begin here for problems OTHER than injuries (p.339. "Wounds").

1. History

Talk to the patient in private. If needed:

- Tell parents that it would be better for you to talk with patient alone.
- Remind patient that the visit is confidential.

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] What is the problem like?

- What does it feel like? Is there any pain or itching?
 - ☐ if itching, is the itching worse at certain times of the day or night?

[2] Does patient have other problems of the genitals or urinary system, such as:

- Discharge?
 - ☐ if so, if woman thinks vaginal discharge has caused her rash, now go to p.115, "Discharge from the Vagina."
- History of V.D. (venereal disease, such as gonorrhea, syphilis, other)?
- Pain with intercourse?
- Cloudy or bloody urine?
- Problems with urinating, such as:
 - ☐ feeling the need to urinate often or rush to the toilet?
 - ☐ pain or burning when urinating? If so, where is the burning (on the skin or inside)?

[3] Recent history:

- *If rash*, has patient used something on genitals that may irritate or cause allergic reaction, including:
 - ☐ medicine: spray, powder, cream, suppository, douche?
 - ☐ "bubble bath"?
 - ☐ diaphragm or condom (the rubber may cause allergy)?

1.2 Past Health History

[1] Illnesses:

- Diabetes?
- [2]** Allergies?

[3] Medicines:

- What medicines is patient taking now?

[4] Sexual history:

- Does a sex partner have V.D., discharge from the penis or vagina, or burning when urinating?
- History of oral sex?
- History of intercourse into the anus or rectum (anal intercourse)?

[5] If a woman, get female history:

- Periods (menstrual history):
 - ☐ any problems related to periods, such as cramping, abnormal bleeding, or spotting blood between periods?
 - ☐ date of first day of last menstrual period (LMP)?
- Birth control:
 - ☐ ask her: "Are you using any birth control now?" If so, what kind (pills, IUD, other)?
 - ☐ ask her: "Could you be pregnant?"
- Pap: Date of last Pap smear.

1.3 Other History

[1] Does patient have any other complaints, such as:

- Fever or chills?
- Sore throat?
- Abdominal pain?
- Problems with the anus (pain, burning, discharge)?
- Joint pain or swelling (arthritis)?
- Skin problem?

[2] Does anyone else at home have the same problem?

2. Exam

2.1 General appearance.

2.2 Vital signs: T, P, R, BP.

2.3 *If history of sore throat or oral sex, check:*

- Mouth and throat:
 - ☐ appearance.
 - ☐ take throat culture for gonorrhea, if available (p.142).

- Lower jaw and neck:
 - ☐ feel for lymph nodes. If felt, note size, tenderness, and if movable.

2.4 Abdomen:

- Feel lower abdomen, above pubic bone, for tenderness/lumps.

2.5 *Genitals.* Wear examination gloves (two pairs if sores from possible herpes). Examine the problem area closely:

- Appearance:
 - ☐ location.
 - ☐ number of lesions.
 - ☐ size and shape.
 - ☐ is it raised/flat/depressed?
 - ☐ color.
 - ☐ moisture.
 - ☐ other appearance.
- Feel the area:
 - ☐ is it tender to touch?
 - ☐ what does it feel like (soft, firm, hard)?
- If a lump, is it movable or attached to something:
 - ☐ try to pick up or move skin over the lump.
 - ☐ try to move/slide lump over tissue that is underneath.
- Feel for enlarged lymph nodes in the groin. If felt, note size, tenderness, and if movable.

2.6 *Female Genitals.* Change examination gloves and also examine the following:

- Labia and outer vagina: Examine closely.
- If adult, insert speculum to see cervix.
- If discharge, examine and take sample for "wet prep," if available (p.115).
- Take culture for gonorrhea, if available (p.142).
- Do a Pap smear if needed.
- Look at vagina as you remove speculum.
- If adult, feel inside vagina:
 - ☐ lubricate your pointer and middle fingers and insert them.
 - ☐ feel for tenderness/lumps.
 - ☐ find the cervix and feel it.
 - ☐ move the cervix with your two fingers, to check for pain.
 - ☐ feel the uterus.
 - ☐ feel the right and left ovaries.

2.7 Male Genitals. Change examination gloves and also examine the following:

- Scrotum:
 - appearance.
 - feel within the scrotum: testicle and nearby area; cord (spermatic cord).
- Penis.
- If pain in low abdomen, groin, or scrotum, feel for hernias.

- Test for gonorrhea (p.141):
 - make smear on slide.
 - take culture, if available.

2.8 Anus and Rectum:

- If history of problems, examine appearance of anus.
- If history of discharge or anal intercourse, do rectal culture for gonorrhea, if available (p.142).

2.9 Skin.

2.10 Lab tests:

- Incubate culture(s) for gonorrhea (p.142).
- RPR blood test for syphilis (red top tube).

3. Assessment

3.1 Your assessment should be:

A sore, rash, or growth on genitals.

3.2 Make a more specific assessment. Use chart 3.2.

Chart 3.2

A Sore, Rash, or Growth on Genitals: Some Assessments And Typical Findings

Assessment	History	Exam
<p>SYPHILIS [infection caused by <i>Treponema pallidum</i> bacteria; spread by sexual contact or blood of infected person. Has three stages: 1. Sore on any part of body. 2. Body rash, fever, sometimes hair loss. 3. Serious damage, such as blindness, heart disease, and psychosis.]</p> <p>(Plan: p.139)</p>	<p>Sore:</p> <ul style="list-style-type: none"> • Started 2-6 weeks after sexual contact. • As described under "Exam." • Not very painful. <p>Rash:</p> <ul style="list-style-type: none"> • Begins 3-24 wks. after ulcer started. • As described under "Exam." • Does not itch. • Lasts 2-6 weeks; may return. 	<p>May have fever.</p> <p>Sore:</p> <ul style="list-style-type: none"> • May be on genitals, in mouth, or any part of body. • Starts as small blister. • Becomes ulcer (chancere): about 2 cm. size, round, moist, open sore that looks like a piece of skin tissue is missing. • NOT very tender to touch. • Edges are firm. <p>Rash:</p> <ul style="list-style-type: none"> • Can have many appearances. Often colored and raised. • Usually is all over body (including palms of hands and soles of feet) and on mucous membranes. <p>Lymph nodes:</p> <ul style="list-style-type: none"> • Enlarged in area near ulcer. • Later enlarged in other areas also. • Not tender to touch. <p>RPR blood test for syphilis: Positive, 4-6 wks. after infection.</p>
<p>HERPES [infection caused by herpes simplex virus (usually type II); spread by mouth or sexual contact]</p> <p>(Plan: p.139)</p>	<p>Sores/rash: As described under "Exam"; painful. May have pain on intercourse; pain when urinating. <i>If first infection:</i></p> <ul style="list-style-type: none"> • Rash usually starts 3-7 days after sexual contact. • May feel sick with fever, headache, loss of appetite. <p><i>If recurrent herpes</i>, symptoms are milder.</p>	<p>Sores/rash on genitals:</p> <ul style="list-style-type: none"> • Location may include vagina, cervix, anus. • Pinhead size, round blisters that may have broken to form moist, open ulcer sores, depressed in the center; may have scabs. <p><i>If first infection:</i> May have fever, enlarged, tender lymph nodes in the area. PAP smear of fluid from sore may help to make assessment.</p>

Chart 3.2

A Sore, Rash, or Growth on Genitals: Some Assessments And Typical Findings (continued)

Assessment	History	Exam
YEAST [candida, monilia; infection caused by a fungus] (Plan: p.118)	Man usually has no symptoms. Vaginal discharge, as described under "Exam." Often has rash in genital area with itching/burning skin; may get worse just before woman's period. May have pain on intercourse; burning on skin when urinating. May have history of diabetes, pregnancy, taking birth control pills or antibiotics.	Genital area may have rash: <ul style="list-style-type: none"> • Worse in moist areas. • Inflamed skin (tender, warm, red, swollen). • May have a few small pimples at edges of rash. <i>Female genitals:</i> <ul style="list-style-type: none"> • Vaginal discharge: White; creamy, thick, like cottage cheese; on labia and in patches on cervix and vagina. • Vagina: Mucous membranes are red. • Moving cervix NOT painful. • Wet prep: May see yeast.
OTHER FUNGUS [tinea cruris, ringworm of groin, "jock itch"; skin infection caused by fungus] (Plan: p.327)	Rash: <ul style="list-style-type: none"> • Spreading slowly. • As described under "Exam." • Itches a lot. 	Genital area has rash: <ul style="list-style-type: none"> • In moist areas, on both sides of body. • Red, flat, with sharp edges that may be raised. • May have a few pinhead size blisters at edges. • Rash spreads out from the edges; areas infected first clear up, look OK. Often patient has athlete's foot fungus infection, also.
SCABIES [caused by small insects (mites) living in the skin] (Plan: p.329)	Skin problem: Started about 30 days after exposure; as described under "Exam." Itching, usually worse at night. May be similar problem in family member or close contact.	Skin problem ("rash"): <ul style="list-style-type: none"> • Location may include in-between fingers, wrists, elbows, breasts, beltline, genital area. • A few pinhead size, round blisters or lumps. • May see burrows from the insect: small, wavy, pink-red lines. • Often small scabs from scratching too hard. • May have hives.
LICE [pediculosis, crabs; caused by small insects, usually living around body hair] (Plan: p.328)	Itching: <ul style="list-style-type: none"> • Starts about 30 days after exposure. • May be so severe that patient has sores from scratching too hard. Skin problem, as described under "Exam."	May see lice on hair, body, or clothes, next to body. <i>Hair:</i> Nits (tiny white eggs) seen attached to hair. Skin problem ("rash"): <ul style="list-style-type: none"> • May have small bite marks; hives. • Often small scabs from scratching too hard.

Chart 3.2

A Sore, Rash, or Growth on Genitals: Some Assessments And Typical Findings (continued)

Assessment	History	Exam
IRRITATION OR ALLERGY [contact dermatitis; caused by contact with something that irritates or causes allergic reaction] (Plan 4.1)	May have vaginal discharge, as described under "Exam." Skin itches in genital area; may burn. History of using something around genitals that may irritate or cause allergic reaction.	<i>Genital area</i> with allergic rash: <ul style="list-style-type: none"> • Inflamed skin (tender, warm, red, swollen). • May have some pinhead size blisters that break, ooze, and form crusts as they dry. • Often small scabs from scratching too hard. <i>Female genitals:</i> <ul style="list-style-type: none"> • Discharge: Not much. Maybe an increase in normal vaginal discharge. • Cervix and vagina: Usually normal; moving cervix is NOT painful.
GENITAL WARTS [condylomata acuminata, venereal warts; infection caused by a virus; usually spread by sexual contact] (Plan: p.140)	May have no symptoms except for growths: Started about 3 mo. after sexual contact; as described under "Exam."	Growths (warts) on genitals: <ul style="list-style-type: none"> • Location may include inside opening of penis, vagina, cervix, anus. • Size varies; often 3-6 mm. ($\frac{1}{8}$ to $\frac{1}{4}$ inch). • Fleshy looking, pink color; ragged, like cauliflower; attached to skin by a "stalk." • Often moist. • Feel soft; NOT tender to touch.

3.3 Include in your assessment that the problem is caused by one of the following:

- **Syphilis** (Plan: p.139).
- **Herpes** (Plan: p.139).
- **Yeast** (Plan: p.118).
- **Other fungus** (Plan: p.327).
- **Scabies** (Plan: p.329).
- **Lice** (Plan: p.328).
- **Irritation or allergy** (Plan 4.1).
- **Genital warts** (Plan: p.140).
- **Other or unknown cause of a sore, rash, or growth on genitals** (Plan 4.2).

4. Plan

4.1 Plan: Irritation or Allergy

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- **Always report if:**
 - ☐ rash is severe.

- ☐ skin infection (getting more tender, warm, red, swollen; pus seen; enlarged, tender lymph nodes).

- While you are waiting to report, follow this plan.

[2] Patient education should include information about "General Care of the Genitals," p.140.

[3] Other plan is the same as for this skin problem on other area of the body. Go to p.326, "Plan: Dermatitis."

4.2 Plan: Other or Unknown Cause of a Sore, Rash, or Growth on Genitals

[1] Report to your referral doctor. **If you can NOT reach a doctor,** follow this plan until you can.

[2] Patient education should include

information about "General Care of the Genitals," p.140.

[3] If skin infection (getting more tender, warm, red, swollen; pus seen; enlarged, tender lymph nodes) give an antibiotic. Follow the plan for "Impetigo," p.323.

[4] Recheck as follows:

- Recheck at these times:
 - ☐ in one day if patient looks sick or has fever.
 - ☐ in 2-3 days, sooner if patient is feeling worse.
 - ☐ in two weeks.
- Examine:
 - ☐ vital signs: T, P, BP.
 - ☐ genitals.
 - ☐ at two week recheck, repeat RPR blood test for syphilis (red top tube).
- Report to your referral doctor.

SEXUALLY TRANSMITTED DISEASES (STD or V.D.)

Sexually transmitted diseases (STD, V.D., venereal diseases) are infectious diseases that are often spread by sexual contact.

Begin here if patient has possible STD, including:

- Man with pus or discharge from the penis.
- Sex partner (sexual contact) of someone with STD.

1. History

Talk to the patient in private. If needed:

- Tell parents that it would be better for you to talk with patient alone.
- Remind patient that the visit is confidential.

If sex partner (sexual contact) of someone with V.D., tell patient: "You have been named as a V.D. contact." Do NOT tell *who* named patient.

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Does patient have other problems of the genitals or urinary system, such as:

- A sore, rash, or growth?
- Discharge?
- History of V.D. (gonorrhea, syphilis, other)?
- Pain with intercourse?
- Cloudy or bloody urine?
- Problems with urinating, such as:
 - ☐ feeling the need to urinate often or rush to the toilet?
 - ☐ pain or burning when urinating? If so, where is the burning (on the skin or inside)?

1.2 Past Health History

- [1]** Allergies?
- [2]** Medicines:
 - What medicines is patient taking now?
- [3]** Sexual history:
 - Numbers of sex partners (men and women) within the last 30 days?
 - Does a sex partner have V.D., discharge from the penis, or burning when urinating?
 - History of oral sex?
 - History of intercourse into the anus or rectum (anal intercourse)?
- [4]** If a woman, get female history:
 - Periods (menstrual history):
 - ☐ any problems related to periods, such as cramping, abnormal bleeding, or spotting blood between periods?
 - ☐ date of first day of last menstrual period (LMP)?
 - Birth control:
 - ☐ ask her: "Are you using any birth control now?" If so, what kind (pills, IUD, other)?
 - ☐ ask her: "Could you be pregnant?"
 - Pap: Date of last Pap smear.

1.3 Other History

- [1]** Does patient have any other complaints, such as:
 - Fever or chills?
 - Sore throat?
 - Abdominal pain?
 - Problems with the anus (pain, burning, discharge)?
 - Joint pain or swelling (arthritis)?
 - Skin problem?

2. Exam

2.1 General appearance.

2.2 Vital signs: T, P, R, BP.

2.3 Mouth and throat:

- Appearance.
- Feel any problem areas, if possible. Wear examination glove.
- *If history of sore throat or oral sex*, take throat culture for gonorrhea, if available (p.142).

2.4 Lower jaw and neck:

- Feel for enlarged lymph nodes. If felt, note size, tenderness, and if movable.

2.5 Abdomen:

- Feel lower abdomen, above pubic bone, for tenderness/lumps.

2.6 Female Genitals. Wear examination gloves (two pairs if sores from possible herpes). Check the following:

- Genital area & groin:
 - ☐ appearance.
 - ☐ feel for enlarged lymph nodes in the groin. If felt, note size, tenderness, and if movable.
- Labia and outer vagina: Examine closely.
- Insert speculum to see cervix.
- *If discharge*, examine:
 - ☐ how much is there?
 - ☐ what does it look like?
 - ☐ what does it smell like?
 - ☐ take sample for "wet prep," if available (p.115).
- Take culture for gonorrhea, if available (p.142).
- Do a Pap smear, if needed.
- Look at vagina as you remove speculum.
- Feel inside vagina:
 - ☐ lubricate your pointer and middle fingers and insert them.
 - ☐ feel for tenderness/lumps.
 - ☐ find the cervix and feel it.
 - ☐ move the cervix with your two fingers, to check for pain.
 - ☐ feel the uterus.
 - ☐ feel the right and left ovaries.

2.7 Male Genitals. Wear examination gloves (two pairs if sores from possible herpes). Check the following:

- Genital area & groin:
 - ☐ appearance.
 - ☐ feel for enlarged lymph nodes in the groin. If felt, note size, tenderness, and if movable.
- Scrotum:
 - ☐ appearance.
 - ☐ feel within the scrotum: testicle and nearby area; cord (spermatic cord).
- Penis.
- If pain in low abdomen, groin, or scrotum, feel for hernias.
- Test for gonorrhea (p.141):
 - ☐ make smear on slide.

- take culture, if available.

2.8 Anus and Rectum:

- If history of problems, examine appearance of anus.
- If history of discharge or anal intercourse, do rectal culture for gonorrhea, if available (p.142).

2.9 Skin.

2.10 Lab tests:

- If vaginal discharge, examine "wet prep".
- Incubate culture(s) for gonorrhea (p.142).
- RPR blood test for syphilis (red top tube).

3. Assessment

3.1 Your assessment should be: **Sexually Transmitted Disease (STD).**

3.2 Try to make a more specific assessment. Use chart 3.2.

Chart 3.2

Sexually Transmitted Disease: Some Assessments and Typical Findings

Assessment	History	Exam
GONORRHEA [GC, "clap"; infection caused by <i>Neisseria gonorrhea</i> bacteria] (Plan 4.1)	May have no symptoms; may only be sexual contact of person with gonorrhea. Discharge from penis or vagina: started 2-8 days after sexual contact; as described under "Exam." May have: Pain with intercourse; the need to urinate often or rush to toilet; pain when urinating; abnormal menstrual bleeding; anus pain, burning, or discharge. With more widespread infection, may have: fever, chills; abdominal pain, cramping; joint pain; rash.	May have fever. <i>Throat:</i> May be red. Discharge from penis, vagina, cervix, or anus: green or yellow. <i>Female genitals:</i> <ul style="list-style-type: none"> • Moving cervix may be very painful. • <i>Wet prep:</i> A lot of white blood cells seen. Gonorrhea culture: Positive.
CHLAMYDIA [infection caused by <i>Chlamydia trachomatis</i> , similar to bacteria; common cause of non-gonococcal urethritis or vaginitis (NGU or NGV)] (Plan 4.2)	May have no symptoms; symptoms may go away for a while, then come back. Often has discharge from penis or vagina: Started 2 wks. after sexual contact; as described under "Exam." May have: Pain with intercourse; the need to urinate often or rush to toilet; pain when urinating; abnormal menstrual bleeding. With more widespread infection, may have: fever; abdominal pain, cramping.	May have fever. Discharge <ul style="list-style-type: none"> • From penis: usually clear. • From vagina or cervix: white to yellow; cloudy, like pus. <i>Female genitals:</i> <ul style="list-style-type: none"> • Cervix may be red & swollen, bleed easily, and have erosion, an "eating away" of tissue. • Moving cervix may be very painful. • <i>Wet prep:</i> A lot of white blood cells seen.
TRICHOMONAS [infection caused by <i>Trichomonas vaginalis</i> , a 1-celled animal] (Plan: p.118)	Woman may have no symptoms; man usually has no symptoms. Vaginal discharge: A lot, as described under "Exam"; may get worse with or just after period. May have some itching/burning in genital area. May have pain on intercourse; burning on skin when urinating. Often has history of Trichomonas, with partner NOT treated.	<i>Female genitals:</i> <ul style="list-style-type: none"> • Labia may be inflamed (tender, warm, red, swollen) • Cervix and vagina: Mucous membranes often red; may have tiny red "strawberry spots" like bleeding points inside the tissue; cervix may bleed easily and have erosion, an "eating away" of tissue. • Moving cervix NOT painful. • <i>Wet prep:</i> Trichomonas seen. Discharge: Yellow to green, or grey; cloudy; thin, frothy (bubbly); smells foul.

Chart 3.2

Sexually Transmitted Disease: Some Assessments and Typical Findings (continued)

Assessment	History	Exam
YEAST [candida, monilia; infection caused by a fungus; often NOT STD] (Plan: p.118)	Man usually has no symptoms. Vaginal discharge, as described under "Exam." Often has rash in genital area with itching/burning skin; may get worse just before woman's period. May have pain on intercourse; burning on skin when urinating. May have history of diabetes, pregnancy, taking birth control pills or antibiotics.	Genital area may have rash: <ul style="list-style-type: none"> • Worse in moist areas. • Inflamed skin (tender, warm, red, swollen). • May have a few small pimples at edges of rash. <i>Female genitals:</i> <ul style="list-style-type: none"> • Vaginal discharge: White; creamy, thick, like cottage cheese; on labia and in patches on cervix & vagina; may smell like yeast. • Vagina: Mucous membranes are red. • Moving cervix NOT painful. • Wet prep: May see yeast.
GARDNERELLA [bacteria that used to be called Hemophilus vaginalis; one cause of nonspecific vaginitis (NSV); often NOT STD] (Plan: p.119)	Man usually has no symptoms. Vaginal discharge, as described under "Exam." May have some itching/burning in genital area.	<i>Female genitals:</i> <ul style="list-style-type: none"> • Cervix and vagina: Mucous membranes are NOT red or irritated. • Discharge: May have a lot; white or grey-green; cloudy; may be thick or thin and watery; smells like fish. • Moving cervix NOT painful. • Wet prep: Clue cells seen.
SYPHILIS [infection caused by <i>Treponema pallidum</i> bacteria; spread by sexual contact or blood of infected person. Has three stages: 1. Sore on any part of body. 2. Body rash, fever, sometimes hair loss. 3. Serious damage, such as blindness, heart disease, and psychosis.] (Plan 4.3)	Often there are NO symptoms. Sore: <ul style="list-style-type: none"> • Started 2-6 weeks after sexual contact. • As described under "Exam." • Not very painful. Rash: <ul style="list-style-type: none"> • Begins 3-24 wks. after ulcer started. • As described under "Exam." • Does not itch. • Lasts 2-6 weeks; may return. 	May have fever. Sore: <ul style="list-style-type: none"> • May be on genitals, in mouth, or any part of body. • Starts as small blister. • Becomes ulcer (chancre): about 2 cm. size, round, moist, open sore that looks like a piece of skin tissue is missing. • NOT very tender to touch. • Edges are firm. Rash: <ul style="list-style-type: none"> • Can have many appearances. Often colored and raised. • Usually is all over body (including palms of hands and soles of feet) and on mucous membranes. Lymph nodes: <ul style="list-style-type: none"> • Enlarged in area near ulcer. • Later enlarged in other areas also. • Not tender to touch. RPR blood test for syphilis: Positive, 4-6 wks. after infection. Exam may be normal except for blood test.

Chart 3.2

Sexually Transmitted Disease: Some Assessments and Typical Findings (continued)

Assessment	History	Exam
HERPES [infection caused by herpes simplex virus (usually type II); spread by mouth or sexual contact] (Plan 4.4)	Sores/rash: As described under "Exam"; painful. May have pain on intercourse; pain when urinating. <i>If first infection:</i> <ul style="list-style-type: none"> • Rash usually starts 3-7 days after sexual contact. • May feel sick with fever, headache, loss of appetite. <i>If recurrent herpes</i> , symptoms are milder.	Sores/rash on genitals: <ul style="list-style-type: none"> • Location may include vagina, cervix, anus. • Pinhead size, round blisters that may have broken to form moist, open ulcer sores, depressed in the center; may have scabs. <i>If first infection:</i> May have fever, enlarged, tender lymph nodes in the area. Pap smear of fluid from sore may help to make assessment.
GENITAL WARTS [condylomata acuminata, venereal warts; infection caused by a virus] (Plan 4.5)	May have no symptoms except for growths: Started about 3 mo. after sexual contact; as described under "Exam."	Growths (warts) on genitals: <ul style="list-style-type: none"> • Location may include inside opening of penis, vagina, cervix, anus. • Size varies; often 3-6 mm. ($\frac{1}{8}$ to $\frac{1}{4}$ inch). • Fleshy looking, pink color; ragged, like cauliflower; attached to skin by a "stalk." • Often moist. • Feel soft; NOT tender to touch.
SCABIES [caused by small insects (mites) living in the skin; often NOT STD] (Plan: p.329)	Skin problem: Started about 30 days after exposure; as described under "Exam." Itching, usually worse at night. May be similar problem in family member or close contact.	Skin problem ("rash"): <ul style="list-style-type: none"> • Location may include in-between fingers, wrists, elbows, breasts, beltline, genital area. • A few pinhead size, round blisters or lumps. • May see burrows from the insect: small, wavy, pink-red lines. • Often small scabs from scratching too hard. • May have hives.
LICE [pediculosis, crabs; caused by small insects, usually living around body hair; often NOT STD] (Plan: p.328)	Itching: <ul style="list-style-type: none"> • Starts about 30 days after exposure. • May be so severe that patient has sores from scratching too hard. Skin problem, as described under "Exam."	May see lice on hair, body, or clothes, next to body. <i>Hair:</i> Nits (tiny white eggs) seen attached to hair. Skin problem ("rash"): <ul style="list-style-type: none"> • May have small bite marks; hives. • Often small scabs from scratching too hard.

3.3 Include in your assessment that the STD is one of the following:

- **Gonorrhea** (Plan 4.1).
- **Chlamydia** (Plan 4.2).
- **Trichomonas** (Plan: p.118).
- **Yeast** (Plan: p.118).
- **Gardnerella** (Plan: p.119).
- **Syphilis** (Plan 4.3).
- **Herpes** (Plan 4.4).
- **Genital warts** (Plan 4.5).
- **Scabies** (Plan: p.329).
- **Lice** (Plan: p.328).
- **Other or unknown STD** (Plan 4.6).

4. Plan

Medicines recommended may change more often for STD than for other medical problems. Your referral doctor will give you information about changes.

4.1 Plan: Gonorrhea

[1] Ask for information about sex partners. See chart 4.1 [1].

[2] Report to your referral doctor, unless he has signed for you to treat gonorrhea of the urethra or vagina without contacting him.

- **Always report if:**
 - ☐ patient is a child or a pregnant woman.
 - ☐ patient looks sick or has fever, abdominal pain, or if moving the cervix hurts.
 - ☐ patient has gonorrhea of the throat or anus.
 - ☐ gonorrhea culture NOT available.
- While you are waiting to report, follow this plan.

[3] Medicine to treat gonorrhea should be given as follows:

- Treat if gonorrhea culture is positive.
- Treat without culture results, in these cases:
 - ☐ sexual contact of patient with gonorrhea.
 - ☐ gonorrhea culture NOT available.
 - ☐ yellow or green discharge from penis.
 - ☐ woman has low abdominal pain and moving the cervix hurts.
 - ☐ patient is sick with fever and chills, nausea, vomiting.
- Give two antibiotics.
See chart 4.1 [3]

Chart 4.1 [1]

Patient Education GONORRHEA: INFORMATION IS NEEDED ABOUT YOUR SEX PARTNERS

1. Tell your sex partners (men and women) within the last 30 days:
 - They have been exposed to gonorrhea and they should go to the clinic to be examined.
 - Even with no symptoms, they can have gonorrhea, infect others, and become very sick.
2. Also, give your CHA/P the following information, to help with follow-up:
 - Full names of your sex partners within the last 30 days. If full name is not known, also describe the person.
 - Where can each person be reached?
 - If you do NOT want the CHA/P to know this information, write it down, put it in a sealed envelope, and give it to the CHA/P now. The CHA/P will mail it to the PHN, for follow-up.
3. Your sex partners will be called in for examination and treatment if your gonorrhea culture is positive or if the doctor suggests they be treated. They will NOT be told that you are the person who named them.

Chart 4.1 [3]

ANTIBIOTICS FOR TREATING GONORRHEA

Antibiotics are listed in order of recommended treatment. Give adult ONE of the following four choices, **PLUS** TETRACYCLINE:

1. I.M. shot of **CEFTRIAXONE** (Rocephin®; 250 mg./ml.).
 - See "Mixing Powdered Medicines for Injection," p.421.
 - Read instructions carefully on how to mix the medicine.
 - Inject **250 mg. (1 cc.)**.

2. Oral AMOXICILLIN AND PROBENECID:

- **AMOXICILLIN** (250 mg. capsules). Give **3.0 Gm. (12 capsules)** by mouth; and
- **PROBENECID** (500 mg. tablets). Give **1.0 Gm. (2 tablets)** by mouth.

3. Oral AMPICILLIN AND PROBENECID:

- **AMPICILLIN** (250 mg. capsules). Give **3.5 Gm. (14 capsules)** by mouth; and
- **PROBENECID** (500 mg. tablets). Give **1.0 Gm. (2 tablets)** by mouth.

4. I.M. PENICILLIN AND PROBENECID:

- I.M. shot of **PROCAINE PENICILLIN** (Wycillin®). Inject **4,800,000 Units** (2,400,000 Units into each buttock); and
- **PROBENECID** (500 mg. tablets). Give **1.0 Gm. (2 tablets)** by mouth.

PLUS:

In addition to giving one of the above four antibiotics, give:

TETRACYCLINE (250 mg. capsules or tablets).

- Do NOT give to pregnant woman.
- **Dose: 500 mg. (2 capsules or tablets) four times a day for 7 days** (total of 56 capsules or tablets).

OR,

If allergic to TETRACYCLINE, or if pregnant:

Give **ERYTHROMYCIN** (250 mg. tablets).

- **Dose: 500 mg. (2 tablets) four times a day for 7 days** (total of 56 tablets).

[4] If woman has low abdominal pain and if moving the cervix hurts, treat for infection in fallopian tubes (PID, Pelvic Inflammatory Disease):

- Be sure to give antibiotics, the same as for treating gonorrhea (chart 4.1 [3]).

- ☐ in addition, patient should continue to take the TETRACYCLINE or ERYTHROMYCIN for a total of 10 days.
- If pain/tenderness is severe or if on abdominal exam patient has tight muscles (guarding) and rebound tenderness (it hurts more when you quickly let go), now go to p.65, plan for "Acute Abdomen." Patient needs treatment at the hospital.
- If pain/tenderness is mild and abdomen is soft, continue to follow this plan.

[5] Patient education should include information in chart 4.1 **[5]**.

Chart 4.1 [5]

**Patient Education
GONORRHEA**

1. Gonorrhea infection in a woman can cause:
 - Scarring of the fallopian tubes and, as a result, pregnancy in the tube (tubal pregnancy) or infertility.
 - Infection of newborn's eyes at birth, which can cause blindness.
2. Activity: Rest in bed if you feel sick or have fever.
3. Do NOT have sex until:
 - A recheck examination shows that you are cured.
 - Your sex partners have also been treated and cured.
4. Follow other guidelines for "General Care of the Genitals" (chart 4.6).

[6] Treat patient's sex partners for gonorrhea:

- Plan to treat if:
 - ☐ patient's gonorrhea culture is positive.
 - ☐ gonorrhea culture is not available, and your referral doctor recommends treatment.
- Get history and examine for other STD before treating.

[7] Recheck as follows:

- Recheck at these times:
 - ☐ once a day if patient looks sick or has fever, abdominal pain, or if moving the cervix hurts.
 - ☐ three days after finishing the antibiotic (in 10 or 13 days), sooner if patient is having problems including fever, abdominal pain, joint pains.
- *If patient still has discharge or other symptoms:*
 - ☐ ask patient if sex partners have been treated.
 - ☐ your referral doctor may suggest additional treatment.
- Repeat gonorrhea culture on final visit:
 - ☐ culture same places you cultured the first time.
 - ☐ if a woman, also culture the rectum (p.142).

4.2 Plan: Chlamydia

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- *Always report if:*
 - ☐ patient is a child or a pregnant woman.
 - ☐ patient looks sick or has fever, abdominal pain, or if moving the cervix hurts.
- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.2.

[3] If woman has low abdominal pain and if moving the cervix hurts, treat for infection in fallopian tubes (PID, Pelvic Inflammatory Disease). Now go to step 4.1 **[4]**, "If woman has low abdominal pain."

[4] Medicine. Give adult an antibiotic:

Give **TETRACYCLINE** (250 mg. capsules or tablets).

- Do NOT give to pregnant woman.
- **Dose: 500 mg. (2 capsules or tablets) four times a day for 10 days** (total of 80 capsules or tablets).

OR,

If allergic to TETRACYCLINE, or if pregnant:

Give **ERYTHROMYCIN** (250 mg. tablets).

- **Dose: 500 mg. (2 tablets) four times a day for 10 days** (total of 80 tablets).

Chart 4.2

**Patient Education
CHLAMYDIA**

1. Activity: Rest in bed if you feel sick or have fever.
2. Tell your sex partners (men and women) within the last 30 days:
 - They have been exposed to Chlamydia and they should go to the clinic to be treated.
 - Even with no symptoms, they can have Chlamydia and infect others.
3. Do NOT have sex until your sex partners have also been treated, or you will get Chlamydia again.
4. Follow other guidelines for "General Care of the Genitals" (chart 4.6).

[5] Treat patient's sex partners for chlamydia.

- Get history and examine for other STD before treating.

[6] Recheck as follows:

- Recheck at these times:
 - ☐ once a day if patient looks sick or has fever.
 - ☐ in 10 days (before the antibiotic is finished), sooner if patient is having problems including fever, abdominal pain, joint pains.
- Examine:
 - ☐ vital signs.
 - ☐ genitals.
- *If patient still has discharge or other symptoms:*
 - ☐ ask patient if sex partners have been treated.
 - ☐ your referral doctor may suggest additional treatment.

4.3 Plan: Syphilis

[1] Report to your referral doctor. Patient will need antibiotic treatment, and special interviewers will need to ask patient about sex partners.

If you can NOT reach a doctor, follow this plan until you can.

[2] Ask for information about sex partners. See chart 4.3.

Chart 4.3

Patient Education SYPHILIS: INFORMATION IS NEEDED ABOUT YOUR SEX PARTNERS

1. Tell your sex partners (men and women) within the last 30 days:
 - They have been exposed to syphilis and they should go to the clinic to be examined.
 - Even with no symptoms, they can have syphilis, infect others, and become very sick.
2. Also, give your CHA/P the following information, to help with follow-up:
 - Full names of sex partners within the last 30 days. If full name is not known, also describe the person.
 - Where can each person be reached?
 - If you do NOT want the CHA/P to know this information, write it down, put it in a sealed envelope, and give it to the CHA/P now. The CHA/P will mail it to the PHN, for follow-up.
3. Your sex partners will be called in for examination and treatment if the doctor suggests they be treated. They will NOT be told that you are the person who named them.

[3] Patient education should include information in chart 4.6, "General Care of the Genitals."

[4] Recheck as follows:

- Recheck at times recommended by your referral doctor, sooner if patient is having problems.

4.4 Plan: Herpes

[1] Report to your referral doctor, unless patient has recurrent herpes and is doing OK.

- *Always report if patient is a pregnant woman.*
- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.4.

Chart 4.4

Patient Education HERPES

1. Herpes is a common disease. At this time, there is no known cure.
2. Usually herpes sores scab over, dry up, and go away on their own within one to four weeks.
 - Return to clinic if there are signs of infection from bacteria (getting more tender, warm, red, swollen; pus seen).
3. Keep the area dry, when you have herpes sores:
 - Do NOT use medicines unless prescribed by the person treating you.
 - It may help to apply warm or cool packs. Try one of the following, as often as needed:
 - ☐ dip cloth in warm or cool water, wring it out, and apply for 20 minutes. Let skin dry well. Use a hairdryer.
 - ☐ soak teabag in warm water. Place wet teabag on sore until it dries. Throw teabag away after one use.
 - Sprinkle a little corn starch on the area.
4. Wash your hands after touching a herpes sore. This helps to avoid spreading herpes virus to other parts of your body.
5. Herpes virus may stay in your body for the rest of your life. The sores may return 3-4 times a year.
 - The first time is the worst.
 - Things that seem to make the sores return include: fever; nervousness, anxiety, stress;

severe illness; times in the menstrual cycle.

6. You can infect others.

- Before you have sex, tell your partner that you have herpes.
- Do NOT have sex when you have herpes blisters or sores.

7. *In a woman:*

- The cervix can often be infected, with no symptoms.
- There is a higher rate of cancer of the cervix. You should have regular Pap smears once a year, more often if recommended by the doctor.

- In pregnancy, you will have to be followed closely:

- ☐ there is a higher rate of abortion, stillbirth, and premature deliveries.
- ☐ it is dangerous to deliver a baby through the vagina when you have herpes sores there. You may need a delivery by surgery (Caesarean section).

8. Follow other guidelines for "General Care of the Genitals" (chart 4.6).

[3] Support the patient at each visit.

- Patients with herpes often have anger, depression, and guilt.
- Help patient to talk about the problem, feelings, and worries. Follow general guidelines for talking and counseling (p.219).

[4] Medicine may include the following:

- *If first infection*, and if symptoms began less than 6 days ago, your referral doctor may prescribe ACYCLOVIR medicine.
- If needed for pain, give ASPIRIN (p.416).
- *If skin infection* (getting more tender, warm, red, swollen; pus seen; enlarged, tender lymph nodes in recurrent herpes) give an antibiotic. Follow the plan for "Impetigo," p.323.
- *If recurrent herpes*, at this time there is no medicine recommended to prevent or treat.

[5] Recheck as follows:

- Recheck at times recommended by your referral doctor, sooner if patient is feeling worse, including:
 - ☐ severe headache.
 - ☐ eyes sensitive to light.
- Wear two pairs of examination gloves and examine herpes sores.
- Continue to support the patient.
- Report any problems to your referral doctor.

4.5 Plan: Genital Warts

[1] Report to your referral doctor. He may give specific instructions for a health care provider to paint the warts once a week with PODOPHYLLIN, a strong medicine.

- While you are waiting to report, follow this plan.

[2] If warts are on woman's cervix, be sure to do a Pap smear. Genital warts may cause cancer.

[3] Patient education should include information in chart 4.6, "General Care of the Genitals."

[4] Recheck as follows:

- Recheck at times recommended by your referral doctor.
- Examine genital warts.

4.6 Plan: Other or Unknown STD

[1] Report to your referral doctor. **If you can NOT reach a doctor,** follow this plan until you can.

[2] If woman has low abdominal pain and if moving the cervix hurts, treat for infection in fallopian tubes (PID, Pelvic Inflammatory Disease). Now go to step 4.1[4], "If woman has low abdominal pain."

[3] If discharge from the vagina, now go to p.115.

[4] If sores on genitals, now go to p.129.

[5] If discharge from the penis, treat as follows:

- If yellow or green color, treat for gonorrhea (plan 4.1).
- If clear discharge, treat for Chlamydia (plan 4.2).

[6] Patient education should include information in chart 4.6.

[7] Treat patient's sex partners if recommended by your referral doctor.

[8] Recheck as follows:

- Recheck at these times:
 - ☐ in one day if patient looks sick or has fever.
 - ☐ in 2-3 days, sooner if patient is feeling worse.
 - ☐ in two weeks.
- Examine:
 - ☐ vital signs.
 - ☐ genitals.
- Report to your referral doctor.

Chart 4.6

Patient Education GENERAL CARE OF THE GENITALS

1. Keep the genital area clean.
 - When you wipe, wipe from front to back.
 - Washing instructions:
 - ☐ use a clean washcloth.
 - ☐ wash all areas. In an uncircumcised man, this includes pulling back the foreskin to clean underneath.
 - ☐ dry well. Use a clean towel to pat the area dry. Do NOT rub.
2. Keep the genital area dry.
 - Avoid tight fitting pants.
 - If you wear underpants, they should be cotton. Cotton lets more air in.
3. *If you have a skin problem:*
 - Wash with plain water. Use soap and water if your skin is infected (pus seen).
 - If the skin is broken or swollen, it may help to take a warm sitz

bath 3-4 times a day. Sit in warm water (bathtub or basin).

- To dry, it may help to blow dry with a hair dryer (on low heat).
 - Follow other guidelines for "General Care of a Skin Problem," p. 330.
4. Avoid scratching, to help prevent infection.
 5. Avoid perfumed soaps, medicines, home remedies, douches, or other chemicals in the area, unless prescribed. They may cause an irritation, allergic reaction, or other problem.
 6. Do NOT have sex when you have a discharge, rash, sore, or growth on the genitals.
 7. Prevention of V.D. includes the following:
 - Have only one sex partner.
 - Encourage your sex partner to be clean. Use a condom (rubber) if in doubt. Your CHA/P can give you condoms.
 - It may help to wash the genitals after having sex. Dry well.
 - If you have a genital rash, sore, discharge or other problem, get checked at the clinic as soon as possible.

TESTING FOR GONORRHEA

General Approach

Arranging for equipment/supplies:

- If gonorrhea cultures are NOT available in your area, check with your health corporation. They can help arrange for training, equipment, and supplies.
- Arrange with your referral hospital lab for calcium alginate swabs (Calgiswabs®) and culture plates.

TESTING FOR GONORRHEA Equipment/supplies needed:

Examination gloves
Culture plate, labeled, for each place (site) you will culture
Lab slip, filled out, for each place you will culture

For male, additional:
Calcium alginate swab (Calgiswab®)
Glass slide

For female, additional:
Speculum, rinsed in warm water (NOT used with lubricating jelly)
2 sterile Q-tips® (cotton tipped applicators)

For throat, additional:
Tongue blade
Sterile Q-tip® (cotton tipped applicator)

For anus, additional:
Sterile Q-tip® (cotton tipped applicator)

Male patient should NOT urinate for 1 hour before the exam.

Reassure patient and follow same general approach as for examining male genitals (p.399) or female genitals (p.400), including wearing examination gloves.

Label slide, culture plates, and lab slips correctly before you start:

- Patient's name.
- Village.
- Date.
- Site (place where culture is taken from):
 - ☐ C = cervix.
 - ☐ THR = throat.
 - ☐ U = urethra.
 - ☐ R = anus or rectum.

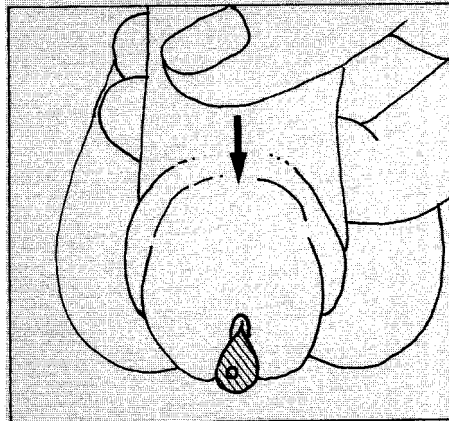
1. Male Genitals: Make Smear on Slide, and Take Culture

1.1 Have the patient help you do these tests, especially if you are a woman. See chart 1.1.

Chart 1.1

Patient Education TESTING FOR GONORRHEA: MALE

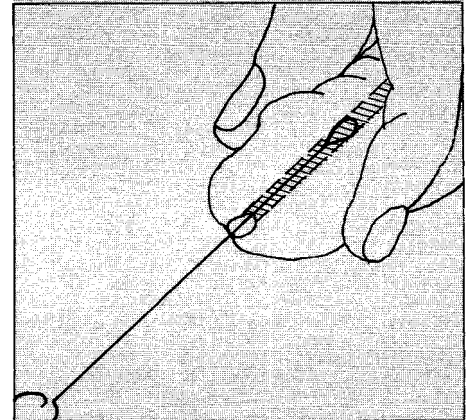
1. "Milk" ("strip") your penis for a good sample:
 - Hold your penis at the base between one finger underneath and your thumb on top.
 - Move your finger and thumb toward the end of your penis to "milk" any pus or discharge to the opening.



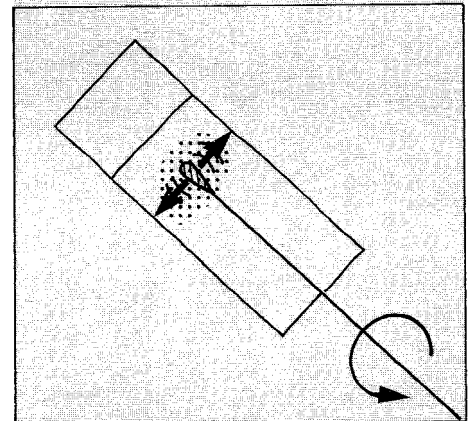
2. If you have a lot of discharge, do the following:

- Wipe the slide across the opening of your penis to get a good specimen on the slide.
- Insert the swab into your penis to pick up as much discharge as possible on the swab.

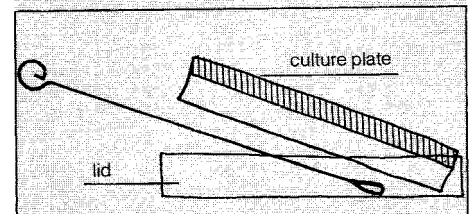
- Take the swab out of your penis.
3. If you do NOT have much or any discharge, do the following:
 - Spread the opening of your penis.
 - Insert the swab about one inch inside your penis.
 - Leave the swab there for 10 seconds. Count to 10 slowly.



- Take the swab out of your penis.
- Roll the the swab back and forth across the slide one time.



4. Turn the culture plate upside down. Place the swab onto the lid, and give it to the CHA/P right away.



1.2 Place the slide where it can dry in the air.

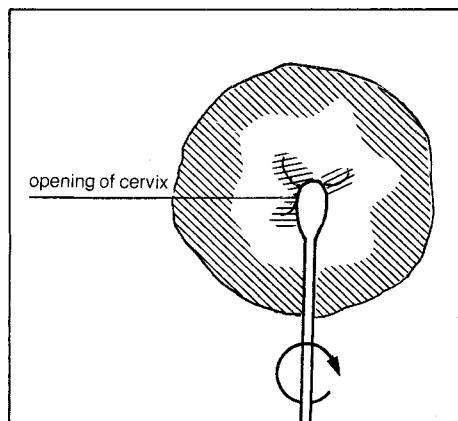
- Do NOT spray slide.
- Plan to mail slide to your referral hospital lab:
 - ☐ if gonorrhea culture is NOT available, mail slide when it is dry.
 - ☐ if gonorrhea culture is available, lab may want you to mail slide when you mail culture plate.

1.3 Now go to "4. Roll Swab on Culture Plate."

2. Female Genitals: Take Culture

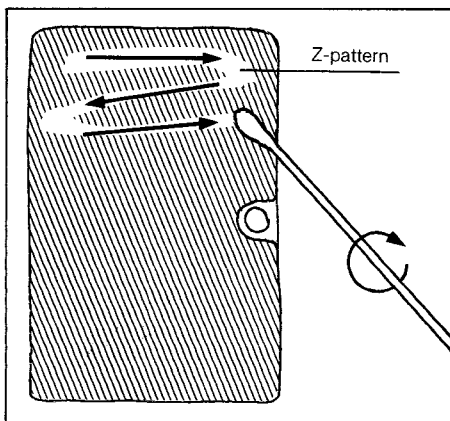
2.1 With first Q-tip®, do the following:

- Insert Q-tip® into opening of cervix (cervical os).
- Twist Q-tip® slowly, all the way around.



Twist the Q-tip® slowly, all the way around.

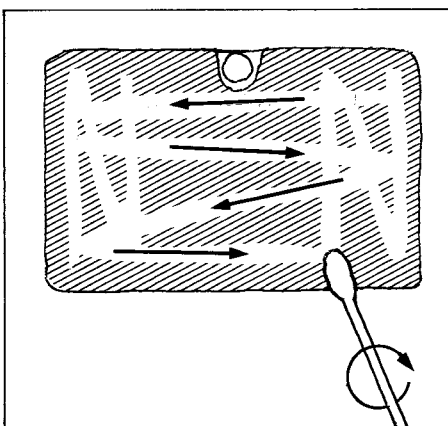
- Leave Q-tip® in place for 10 seconds. Count to 10 slowly while you open culture plate.
- Remove Q-tip® from cervix, *roll* Q-tip® across one end of culture plate in a Z-pattern, and replace lid.



Roll the Q-tip®.

2.2 With second Q-tip®, do the following:

- Insert Q-tip® into opening of cervix, twist slowly, and leave in place for 10 seconds.
 - ☐ if woman with heavy discharge has had cervix removed (hysterectomy), culture the urethra, using a calcium alginate swab (Calgiswab®).
- Turn culture plate around, and roll second Q-tip® across the other end of culture plate in a Z-pattern.
- Turn culture plate and roll the very tip of the second Q-tip® back and forth across plate a few times, so that it crosses the Z-patterns on both ends.



Cross the Z-patterns.

2.3 Replace lid, and turn culture plate upside down.

2.4 Now go to "5. Incubate the Culture."

3. Taking a Gonorrhea Culture From Other Areas of the Body

3.1 If culturing the throat, swab both tonsil areas, similar to swabbing the throat for a strep test (p.298).

3.2 If culturing the anus:

- Insert Q-tip® about ½ inch into anus.
- Twist Q-tip® slowly, all the way around.
- Leave Q-tip® in place for 10 seconds. Count to 10 slowly while you open culture plate.

3.3 Roll Q-tip® on culture plate NOW.

4. Roll Swab on Culture Plate

4.1 If culturing female genitals, this is already done, as above.

4.2 If culturing male genitals or other parts of the body, this is done by rolling one swab (or Q-tip®) in a similar way to the pictures above for female genitals:

- Roll swab across one end of culture plate in a Z-pattern.
- Turn culture plate around, and roll swab across the other end of culture plate in a Z-pattern.
- Turn culture plate and roll the very tip of the swab back and forth across plate a few times, so that it crosses the Z-patterns on both ends.

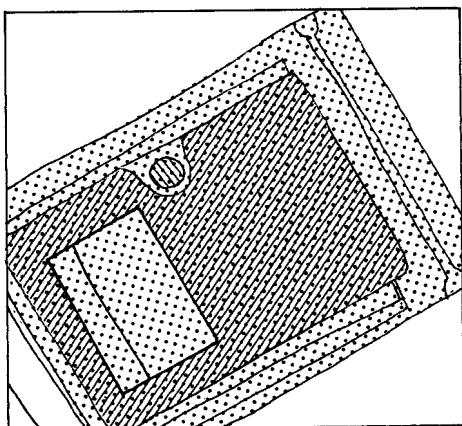
4.3 Replace lid, and turn culture plate upside down.

5. Incubate the culture

5.1 First, prepare the culture plate for the incubator:

- Place culture plate right side up and take off lid.
- Open pill package and drop pill into the well of culture plate.
 - ☐ do NOT touch pill with your fingers.
 - ☐ do NOT add water.
- Keep culture dry. Replace lid tightly, and turn culture plate upside down.
 - ☐ check to make sure it is labeled correctly.
- Open plastic bag. Inside the plastic bag put:
 - ☐ culture plate.
 - ☐ lab slip, filled out.

- Seal air out of the plastic bag by doing the following:
 - ☐ squeeze out air.
 - ☐ swirl the bag.
 - ☐ bend ties.



Culture ready to incubate.

5.2 Place the culture plate *upside down* in incubator.

5.3 Check the temperature of incubator. It should be 34-36°C (body temperature).

5.4 Incubate for 48 hours. In 48 hours, remove specimens.

6. Send to Hospital Lab

6.1 Prepare smear for mailing:

- Place dry slide in cardboard slide-holder.
- Tape the slide-holder closed, so the slide will not fall out and break.

6.2 Prepare the culture plate(s) for mailing:

- It is important for you to send ALL cultures to the lab, to check what you have found.
- For specific instructions, check with your referral hospital lab.
 - ☐ lab may tell you to do oxidase test for gonorrhea on one corner of the culture plate.
- Place culture plates in styrofoam box (holds 3-4 cultures).
- Place styrofoam box in cardboard box.
- Put this package inside your arctic mailer.

6.3 Send to your referral hospital lab.

EXAMINING THE URINE

General Approach

Wash hands after examining urine. There will be urine on the outside of every container.

1. Get Clean Catch Urine Sample

1.1 Give patient a clean catch urine kit or:

- A clean urine container, and
- Two pads with antiseptic solution, such as POVIDONE-IODINE (Betadine®).

1.2 Patient education should include information in chart 1.2.

2. Appearance

This is done as part of every urine examination:

2.1 Color.

2.2 Is it clear or cloudy?

2.3 Other appearance.

2.4 Normal: Light yellow and clear.

2.5 Abnormal includes the following:

- Dark urine may mean dehydration.
- Dark urine with greenish color and foamy bubbles may mean bilirubin, from liver disease.
- Cloudy urine may mean urinary tract infection.

3. Urine Dipstick

3.1 If you have more than one kind of dipstick, use the one that has the fewest tests on it but includes what you are checking for.

3.2 Check expiration date.

3.3 Read directions carefully:

- Directions are different for different dipsticks (Chemstrip®9, Labstix®).
- Note times for reading the tests you will be doing:
 - ☐ with most tests you have to wait a certain amount of time.

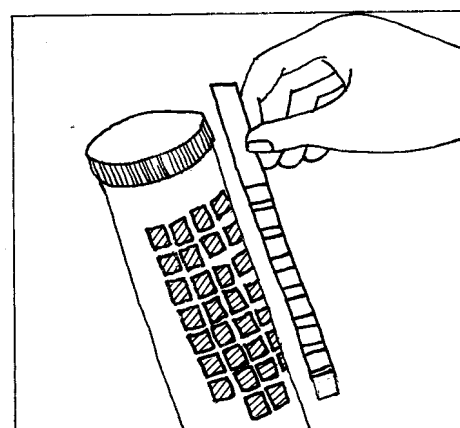
- ☐ with some tests, you must read the test at a certain time.
- ☐ with some dipsticks (Chemstrip®9), you can read all tests between 1-2 minutes.

3.4 Remove dipstick, and close the container. Do NOT touch test areas of strip.

3.5 Dip into urine. Wet all test areas, remove quickly, and check the time on your watch.

3.6 Read each test.

- Hold the dipstick to the left of the chart on the container.
- Compare the colors on the test areas to the chart.



Reading the dipstick.

3.7 Normal:

- Leukocytes: Negative.
- Nitrite: Negative.
- pH: 5-6.5.
- Protein (albumin): Negative.
- Glucose (sugar): Negative.
- Ketones: Negative.
- Urobilinogen: Negative.
- Bilirubin (bile): Negative.
- Blood: Negative.

3.8 Abnormal includes the following:

- Leukocytes: May mean urinary tract infection.
- Nitrite: May mean urinary tract infection.
- pH higher than normal may be from:
 - ☐ urinary tract infection.
 - ☐ diet.
 - ☐ urine that has been sitting for several hours.

- Protein (albumin): May mean kidney disease or preeclampsia of pregnancy.
- Glucose (sugar): May mean diabetes.
- Ketones may be from:
 - ☐ person not eating.
 - ☐ diabetes out of control.
- Urobilinogen or bilirubin (bile): May mean liver disease.
- Blood, if NOT from menstrual period, may be from:
 - ☐ urinary tract infection.
 - ☐ kidney disease.
 - ☐ injury to the urinary system.

4. Mailing Urine Samples

4.1 If for TB culture, now go to p.314.

4.2 If for regular culture or other testing, do the following:

- Be sure the container is labeled.
- Place top tightly on container.
- Place in package that will protect container.
- Enclose a lab slip, filled out. Include the following:
 - ☐ patient's name.
 - ☐ village.
 - ☐ name of the test that needs to be done.
 - ☐ results of your urine dipstick.
 - ☐ date *and time* that you collected urine from patient.
- Keep in refrigerator until transporting to hospital.
- Ask person taking the urine to see that package is delivered to hospital as soon as possible:
 - ☐ for a microscope exam, it should be tested within four hours.
 - ☐ if person can NOT deliver package to hospital, ask if he will put it in a refrigerator and contact the hospital.
- For other information and special instructions, check with your referral hospital lab.
 - ☐ there are special kits available that can transport urine cultures without refrigeration for 24 hours or longer.

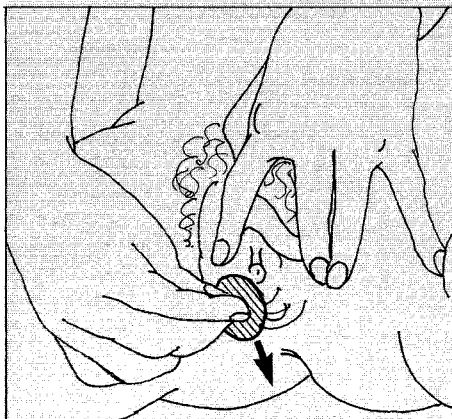
Chart 1.2

Patient Education COLLECTING A CLEAN URINE SAMPLE

As you do this, please put trash in the wastebasket, NOT in the toilet.

WOMAN:

1. If you are having your period and use tampons, insert a fresh one.
2. Wash your hands with soap and water.
3. Sit on the toilet with your legs spread apart.
4. Open the urine container:
 - Do NOT touch inside the container or its top.
 - Place the container where you can get it easily.
5. Open the packages of antiseptic pads.
6. With the fingers of one hand, spread your skin folds apart to see the urinary opening.
Continue to hold the skin folds apart until you are finished collecting the urine sample.
7. With your other hand, pick up an antiseptic pad and clean your urinary opening:
 - Start at the top and wipe down.
 - Repeat with a second pad.



Clean the urinary opening.

8. Collect the urine sample:
 - Begin urinating into the toilet as you usually do.
 - When you are urinating well (1-2 seconds), catch a sample of urine in the urine container.

- ☐ the container should be about ½ full.
- ☐ keep your fingers out of the urine stream.

9. Finish urinating, put the top back on the container, give the container to the CHA/P, and wash your hands again.

MAN:

1. Wash your hands with soap and water.
2. Open the urine container:
 - Do NOT touch inside the container or its top.
 - Place the container where you can get it easily.
3. Open the packages of antiseptic pads.
4. Hold your penis in one hand. If you are uncircumcised, pull back your foreskin and hold it back until you are finished collecting the urine sample.
5. With your other hand, pick up an antiseptic pad and wipe the opening of your penis. Repeat with a second pad.
6. Collect the urine sample:
 - Begin urinating into the toilet as you usually do.
 - When you are urinating well (1-2 seconds), catch a sample of urine in the urine container.
 - ☐ the container should be about ½ full.
 - ☐ keep your fingers out of the urine stream.
7. Finish urinating, put the top back on the container, give the container to the CHA/P, and wash your hands again.

FAMILY PLANNING

Family planning allows a woman and her partner to have children when they want children. A resting period of 2 years between births is healthy for the mother, baby, and family.

Offer family planning advice as part of your regular preventive health work.

- Get patient education handouts from your referral hospital or other sources.
- If a woman wants to get pregnant, see p.148.
- If a patient wants a birth control method NOW, suggest both foam and condoms.
- If a woman wants to start birth control pills, go to p.149.
- Keep a supply of birth control pills to use if:
 - ☐ a woman loses hers.
 - ☐ the doctor wants you to start a woman on the pill.
- If patient wants a birth control method you can not give, such as sterilization, IUD, or diaphragm:
 - ☐ consult your referral doctor.
 - ☐ arrange for patient to get an appointment with a health care provider who is trained in that method.

BIRTH CONTROL METHODS

Sterilization by Surgery

How It Works

In a man, a small operation (vasectomy) cuts the two tubes (vas deferens) that carry sperm. When the man ejaculates ("comes"), there is no sperm in the fluid.

Chart A BIRTH CONTROL METHOD	HOW WELL DOES IT WORK? If 100 Couples Use a Method For One Year, How Many Women Will Get Pregnant?
Sterilization by surgery	Almost 0 women will get pregnant. This method works the best.
Birth Control Pill	Less than 1 woman will get pregnant. This method works second best.
Intra Uterine Device (IUD)	2-3 women will get pregnant. This method works well.
Diaphragm and Jelly	5 women will get pregnant. This method works well.
Both Condoms and Foam Used	5 women will get pregnant. This method works well.
Condom (Rubber) Alone	10 women will get pregnant. This method does NOT work well.
Foam, Jelly, Suppository, or Sponge	20 women will get pregnant. This method does NOT work well.
Withdrawal	23 women will get pregnant. This method does NOT work well.
Natural Methods	25 women will get pregnant. This method does NOT work well.
No Method	85 women will get pregnant.

In a woman, an operation (tubal ligation) cuts both fallopian tubes. No sperm can get through the tubes to reach the eggs.

How to Get This Method

Patient must be age 21 or more.

Do the following:

- Get the sterilization operation booklet from your referral hospital.
- Read the booklet with patient.
- Arrange for the surgery with your referral doctor.
- Patient must sign the consent form 30 days before the surgery. This is a government regulation.

Other Patient Education

- The surgery is permanent. A couple must be sure they do NOT want any more children.
- The surgery should NOT change:
 - ☐ woman's monthly periods.
 - ☐ sexual desire or the ability to have intercourse in a man or woman.

Birth Control Pill

How It Works

The woman takes one pill every day. The pill contains female hormones. These medicines stop the ovary from releasing any eggs.

How to Get This Method

Birth control pills are prescription drugs:

- If a woman wants to start on the pill, see "Starting Birth Control Pills" (p.149).
- Refill pills through your referral doctor.

Other Patient Education

Use a patient education handout to teach the patient.

Tell the woman "DO NOT SMOKE if you take the pill." Smoking makes strokes and heart attacks more likely.

If she takes any other medicine, she should find out from the doctor if there are possible problems when taking that medicine (drug interactions).

Forgetting pills:

- Birth control pills are only effective when taken every day.
- If she forgets one, she should take it as soon as she remembers.
- If she forgets two in a row, she should:
 - ☐ take two as soon as she remembers.
 - ☐ take two the next day, also.
 - ☐ continue to take pills for the whole cycle.
 - ☐ use an additional ("back up") birth control method.

- *If she forgets three in a row, she should:*
 - ☐ take two pills for the next three days.
 - ☐ continue to take pills for the whole cycle.
 - ☐ use an additional ("back up") birth control method.
 - ☐ consider changing to a different method, one that she can use regularly.

A woman must have a breast exam, pelvic exam, and Pap smear once a year for the pills to be refilled.

Common minor side effects. These do NOT mean the pill isn't working. They usually go away after 2-3 months while taking the pills. If they are very bothersome, your referral doctor may suggest switching woman to a different pill. These side effects include:
nausea
fluid retention
headaches
spotting
decreased menstrual flow
weight gain
missed periods
higher number of yeast infections
acne

Rare serious side effects include:
stroke
blood clot to lungs
liver tumor

Follow-Up Care

With each birth control pill refill, do the following:

- Record the woman's last menstrual period.
- Check BP and weight.
- Check to see when her last women's exam was (breast exam, pelvic exam, and Pap smear). It should be done once a year.
- Fill out the pharmacy refill request.

Report to your referral doctor if the woman has any of the following:

- ☐ chest pain or shortness of breath.
- ☐ severe abdominal pain.
- ☐ headache or change in vision.

- ☐ mood problems, especially sadness (depression).
- ☐ leg pain.
- ☐ breast tenderness or discharge.
- ☐ vaginal bleeding or discharge.
- ☐ high BP.
- ☐ other problems.
- If everything is normal give a 3 month supply.

Problems include:

- If the woman misses a period AND forgot to take some of the pills:
 - ☐ do a pregnancy test.
 - ☐ report to your referral doctor.
- If she misses a period and did NOT forget any pills:
 - ☐ she should keep taking the pills.
 - ☐ if she misses a second period, do a pregnancy test, and contact your referral doctor.

Intrauterine Device (IUD)

How It Works

A small piece of plastic sits in the uterus. Exactly how it works is not known, but it probably stops the egg from attaching to lining of the uterus.

How to Get This Method

Contact your referral doctor.

- For legal reasons, the IUD may no longer be available.
- An IUD must be inserted by a health care provider who is trained to do that.
- An IUD is best inserted during a menstrual period, but it can be inserted at any time, as long as there is no chance the woman is pregnant.

Other Patient Education

It is often recommended that a woman have a history of at least one pregnancy and delivery before getting an IUD.

A woman who can use an IUD:

- *Should* have:
 - ☐ normal menstrual flow.
 - ☐ either no menstrual cramping or mild cramping.

- Should NOT have:
 - ☐ several sex partners.
 - ☐ history of infection in fallopian tubes (PID, Pelvic Inflammatory Disease).
 - ☐ history of ectopic pregnancy (tubal pregnancy, pregnancy in fallopian tube).

Common side effects. Periods may:

- Be heavier.
- Be longer.
- Have more cramping.

Uncommon side effects include:

- The woman may get a serious infection in her fallopian tubes (PID). This may prevent her from getting pregnant when she wants to.
- The IUD may push through the uterus and go into the abdomen. It would need to be removed by surgery.

Follow-Up Care

- For the first 3 months after an IUD is put in, the woman should:
 - ☐ use another form of birth control (both foam and condoms).
 - ☐ check for the string often (at least once a week).
- After the first month, the woman should:
 - ☐ check for the string once a month, after her period is over.
 - ☐ keep a good record of her menstrual periods.
- **Report to your referral doctor if the woman has any of the following problems:**
 - ☐ signs of a uterus infection such as:
 - heavy or smelly discharge.
 - cramping or abdominal pain, especially when NOT having a period.
 - fever or chills.
 - ☐ can not feel the string.
 - ☐ irregular bleeding.
 - ☐ no period for six weeks.

Diaphragm and Jelly

How It Works

Spermicidal (kills sperm) jelly or cream is put onto one side of the rubber

diaphragm (into the cup and around the rim). The diaphragm fits inside the vagina. It covers the opening of the cervix. The jelly or cream kills sperm that come near the cervix.

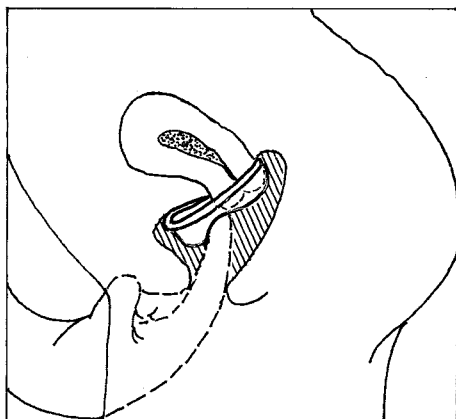
How to Get This Method

Contact your referral doctor. A diaphragm must be fitted by a health care provider who is trained to do that.

Other Patient Education

Remind the woman:

- To feel her cervix. See that it is covered by the diaphragm.



- She should place jelly into her vagina again if:
 - ☐ having intercourse again.
 - ☐ having intercourse more than 2 hours after putting the diaphragm in.
- When putting in *more* jelly or cream:
 - ☐ leave the diaphragm in place. Do NOT take it out.
 - ☐ put the jelly/cream in on top of the diaphragm.
- **Do NOT remove the diaphragm for at least 6 hours after intercourse.**
- Do NOT douche when the diaphragm is in.
- Before each use, check for any holes or tears in the diaphragm.
 - ☐ hold it up to the light.
- Have the size checked after:
 - ☐ having a baby.
 - ☐ losing or gaining 10 pounds.
- Be sure to get more jelly before the last tube is empty.

- Do NOT use foam, Vaseline® or other products. Use only cream or jelly made for use with the diaphragm.

Condom (Rubber, Prophylactic)

How It Works

A condom is put on the erect penis before the man enters the woman's vagina. The condom holds the sperm, and stops sperm from getting into the vagina.

How to Get This Method

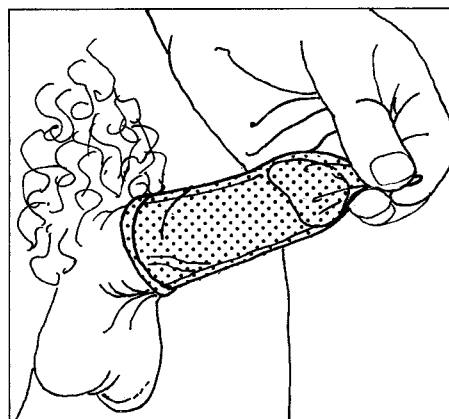
No prescription is needed.

- Get condoms from your hospital pharmacy. Make sure they are available to patients, so patients can get them without being embarrassed.
- Condoms are also available at:
 - ☐ a drugstore.
 - ☐ some village stores.

Other Patient Education

Teach patients the following:

- A condom is the only birth control method that also helps to protect both men and women from getting sexually transmitted diseases.
- Put the condom on the hard penis:
 - ☐ *before* the man enters the woman's vagina.
 - ☐ leave about ½ inch empty at the tip, to catch the fluid when the man ejaculates ("comes," climaxes).



- After the man ejaculates, **while the penis is still hard** he must:
 - ☐ hold onto the base of the condom, and
 - ☐ pull out of the vagina.
- Never use petroleum jelly (Vaseline®) on rubber condoms. This may make the rubber tear.
 - ☐ good lubricants are: lubricating jelly (K-Y®, Lubafax®), contraceptive foam, or saliva.
- Use a condom only once, and then throw it away.
- Store condoms at room temperature, not too hot or too cold.
- The condom may break. Sperm will get out. **A condom is safest when used with birth control foam.**

Birth Control Foam, Jelly, Suppository, or Sponge

How It Works

This type of birth control contains medicine. It is put deep into the vagina before intercourse.

- Birth control foam, jelly, or a suppository coats the vagina and cervix, and kills sperm.
- A sponge covers the cervix, kills sperm, and blocks entry into the uterus.

How to Get This Method

No prescription is needed.

- Get this medicine from your hospital pharmacy. Make sure it is available to patients, so patients can get it without being embarrassed.
- This medicine is also available at:
 - ☐ a drugstore.
 - ☐ some village stores.

Other Patient Education

The woman should:

- Always read the directions. Each brand may be a little different.
- Check expiration date.
- Insert as pictured on p.439.
- Clean the applicator with soap and warm water.

- If using foam, jelly, or suppository, put in another application of medicine each time before intercourse.

The medicine may cause irritation to vagina or to skin in genital area.

Using foam. Remind patient:

- To fill applicator correctly after shaking container.
- She can have intercourse as soon as the foam is in the vagina.
- She should not get up and walk around after putting in foam. It will run out of the vagina.
- She should put in more foam if it is over 30 minutes before she has intercourse.

Using jelly. The woman should be sure the jelly she gets is NOT the kind used with a diaphragm.

Using a suppository. Remember:

- To put in a suppository, the woman should:
 - ☐ remove the foil covering.
 - ☐ feel for the cervix with her finger.
 - ☐ place the suppository in vagina near the cervix.
- After putting in a suppository, wait 10 minutes before having intercourse.

Using a sponge. Woman should know the following:

- To put in a sponge, the woman should:
 - ☐ wet the sponge, and wring it out.
 - ☐ feel for the cervix with her finger.
 - ☐ place sponge in vagina over cervix.
- She may have intercourse as many times as she wants in an 18 hour period.
- She should NOT have intercourse after the sponge has been in for 18 hours, because:
 - ☐ the sponge should be left in for at least 6 hours after intercourse.
 - ☐ the sponge should be removed within 24 hours, to prevent a serious infection (toxic shock).
- Use a sponge only once, and then throw it away.

Withdrawal ("Pulling Out in Time")

How It Works

The man takes his penis out of the woman's vagina just before he ejaculates ("comes"). He ejaculates away from her genitals, to prevent the sperm from getting into the vagina.

Other Patient Education

This method does NOT work well:

- It requires self control and experience.
- Sperm leak out of the penis before ejaculating (before "coming").

Natural Methods

Natural birth control methods are:

- Keeping a calendar ("rhythm" method).
- Taking woman's temperature.
- Looking at mucus from the cervix.

How These Methods Work

There are certain days of a woman's menstrual cycle when she is most likely to get pregnant (any time from a few days before to a few days after an egg is released).

- A couple does NOT have intercourse on these days.
- The couple CAN have intercourse on the other days. On those "safe" days there is no egg around. Sperm die before they can find an egg.

Other Patient Education

Remind the patient:

- This method does NOT work very well.
- This method is OK with most religious groups.
- It only works for women with regular menstrual cycles.
- Woman must keep good records of her menstrual cycles.

How to use one of these methods:

- Consult your doctor for instructions.

- Exactly when an egg is released (ovulation) depends on the length of the woman's menstrual cycle.
- Example of the calendar method ("rhythm" method): If woman has regular periods, every 28 days:
 - ☐ the first day of bleeding is called "day 1."
 - ☐ intercourse is NOT safe on days 10-17.
 - ☐ intercourse may be safe on days 1-9 and days 18-28.

WHEN A WOMAN WANTS TO GET PREGNANT

If Her Periods Are Regular

Patient education should include information in chart B.

If Her Periods Are NOT Regular

Report to your referral doctor.

IF A COUPLE IS HAVING TROUBLE GETTING PREGNANT

First, see "When a Woman Wants to Get Pregnant," above. Next, use this section. Get the following information for *both* partners:

1. History

1.1 Has the couple been having regular sexual intercourse with no birth control for one year or more?

- How often do they have intercourse?

1.2 Female history:

- Periods (menstrual history):
 - ☐ how many days from first day of one period to first day of next period? Do periods come regularly, every 26-30 days?
 - ☐ how many days do periods last?
 - ☐ how much flow/bleeding is there: heavy, medium, or light?

Chart B

Patient Education FOR THE WOMAN WHO WANTS TO GET PREGNANT

1. You should have a breast exam, pelvic exam, and Pap smear once a year.
2. Keep good records of your periods, and write down on a calendar:
 - The first and last day of bleeding, for every period.
 - Any problems, such as spotting blood between periods.
3. Have intercourse at certain times in your menstrual cycle:
 - Count the number of days in your cycle:
 - ☐ start with the first day of each period.
 - ☐ count up to but do not include the first day of the next period.
 - Have intercourse *every other day* (not every day) from days 10 through 16 of your menstrual cycle.
 - ☐ this is the time when the sperm is most likely to find an egg.
 - At other times in the cycle, you should have intercourse 2-3 times a week.
4. After you have intercourse:
 - For 5-15 minutes, it helps to lie on your back with a pillow under your buttocks.
 - Do not douche.
5. Return to clinic:
 - In one year if you do not get pregnant.
 - Sooner if you get pregnant or if you have problems.

☐ any problems with birth control methods in the past?

- Past pregnancies:
 - ☐ number of pregnancies?
 - ☐ number of live births?
 - ☐ number of miscarriages/abortions?
- Pap: Date of last Pap smear.
- 1.3** Male history: Has he gotten a woman pregnant in the past?
- 1.4** Past health history:
 - Illnesses:
 - ☐ infection in woman's fallopian tube (PID, Pelvic Inflammatory Disease)?
 - ☐ V.D. (gonorrhea, syphilis, other)?
 - Operations?
 - Other hospitalizations?
 - Medicines: What medicines is patient taking now?

1.5 Does either partner have other complaints or problems?

- Discharge from the penis or vagina?

1.6 Is there a family history of the same problem?

1.7 Does either partner smoke or chew tobacco? If so, find out more. For example:

- How many packs per day?
- For how many years?
- 1.8** Does either partner drink alcohol or take illegal ("street") drugs? If so:
 - What?
 - When?
 - What amount (how much)?

2. Exam

Do a screening physical exam (p.368) on each partner. Also check the following:

2.1 Check parts of the body in more detail, depending on patient's complaints.

2.2 Lab tests:

- Hemoglobin.
- Urine dipstick.
- Test for gonorrhea (p.141).

3. Assessment

3.1 Your assessment should be:
Having trouble getting pregnant.

4. Plan

4.1 Reassure the couple.

4.2 Report to your referral doctor.

- Send him a copy of your SOAP note for both the woman and the man.
- The doctor may suggest other things for the couple to do.
- There are several special tests that can be done:
 - ☐ usually these test are not done unless the couple has been having a year of regular intercourse with no pregnancy.
 - ☐ the couple will probably have to go to the hospital for these tests.

STARTING BIRTH CONTROL PILLS

Begin here if a woman wants to start taking the pill at a time when there is no PHN or doctor in the village.

Do NOT begin here if patient wants to know about the pill or needs a refill (p.145, "Birth Control Pill").

1. History

1.1 Age.

- She should be less than age 35 to start on birth control pills.

1.2 Does patient have any complaints or problems?

1.3 Illnesses. Plan NOT to start a woman on the pill if she has history of any of the following:

- Severe migraine headaches (p.269).
- High blood pressure.
- Stroke.
- Blood clot in the leg veins or lungs.
- Liver disease of any kind, including hepatitis.
- Abnormal bleeding from the vagina.
- Diabetes.
- Cancer.

1.4 Medicines:

- What medicines is patient taking now?

1.5 Female history:

- Periods (menstrual history):
 - ☐ how many days from first day of one period to first day of next period? Do periods come regularly, every 26-30 days?
 - to start on birth control pills, she probably should have a history of regular monthly periods for one year when not pregnant.
 - ☐ how many days do periods last?
 - ☐ how much flow/bleeding is there: heavy, medium, or light?
 - ☐ any problems related to periods, such as cramping, abnormal bleeding, or spotting blood between periods?
 - ☐ date of first day of last menstrual period (LMP)? Was it normal?
- Birth control:
 - ☐ ask her: "Are you using any birth control now?" If so, what kind?
 - ☐ ask her: "Could you be pregnant?"
 - ☐ any problems with birth control methods in the past?
- Past pregnancies:
 - ☐ number of pregnancies?
 - ☐ number of live births?
 - ☐ number of miscarriages/abortions?
- Pap: Date of last Pap smear.

1.6 Is there a family history of:

- Heart attack or stroke before age 50?
- High blood pressure?
- Diabetes?
- Cancer?

1.7 Does she smoke? If so:

- How many packs per day?
- To start birth control pills:
 - ☐ a smoker must be less than 30 years old.
 - ☐ it is recommended that she stop smoking or decrease to ½ pack per day or less.

2. Exam

2.1 Vital signs: BP.

2.2 Weight.

2.3 Neck:

- Feel for the thyroid.

2.4 Heart:

- Listen for murmurs.

2.5 Chest:

- Breath sounds.

2.6 Breasts:

- Appearance.
- Feel for lymph nodes in armpit area.
- Feel for breast lumps.
- Nipples: Press and gently squeeze to check for discharge or blood.

2.7 Abdomen:

- Feel for:
 - ☐ liver and spleen.
 - ☐ other lumps or masses.

2.8 Genitals:

- Labia and outer vagina: Examine carefully.
- Do pelvic exam if you have been taught, including Pap smear.

2.9 Legs:

- Appearance.
- Pulses at top of foot (DP).

2.10 Lab tests:

- Urine dipstick.
- Hemoglobin.

3. Assessment

3.1 Unless you have found problems, your assessment should be:

Healthy _____ year old female.

4. Plan

4.1 Report to your referral doctor.

- The doctor will decide if the woman can be started on birth control pills.
- **Never start a woman on birth control pills without a doctor's order.**

4.2 If the doctor prescribes birth control pills your plan should include the following:

- Patient education. Give her a patient education handout. Be sure she understands:
 - ☐ when to start taking the pill.
 - ☐ to expect regular periods, and to keep a record of her periods on a calendar.
 - ☐ to use an additional ("back up") birth control method (foam and condoms) for the first month on the pill.
 - ☐ to contact you if she has problems.

- ☐ other patient education, the same as listed on p.145, "Birth Control Pill."

- Give 3 pill packets.

- Plan to refill the pills in three months, using the guidelines on p.145, "Birth Control Pill."

4.3 Other plan: If you did not do a pelvic exam:

- Arrange a time for this with the doctor.
- It should be done within 3 months after starting the pill.

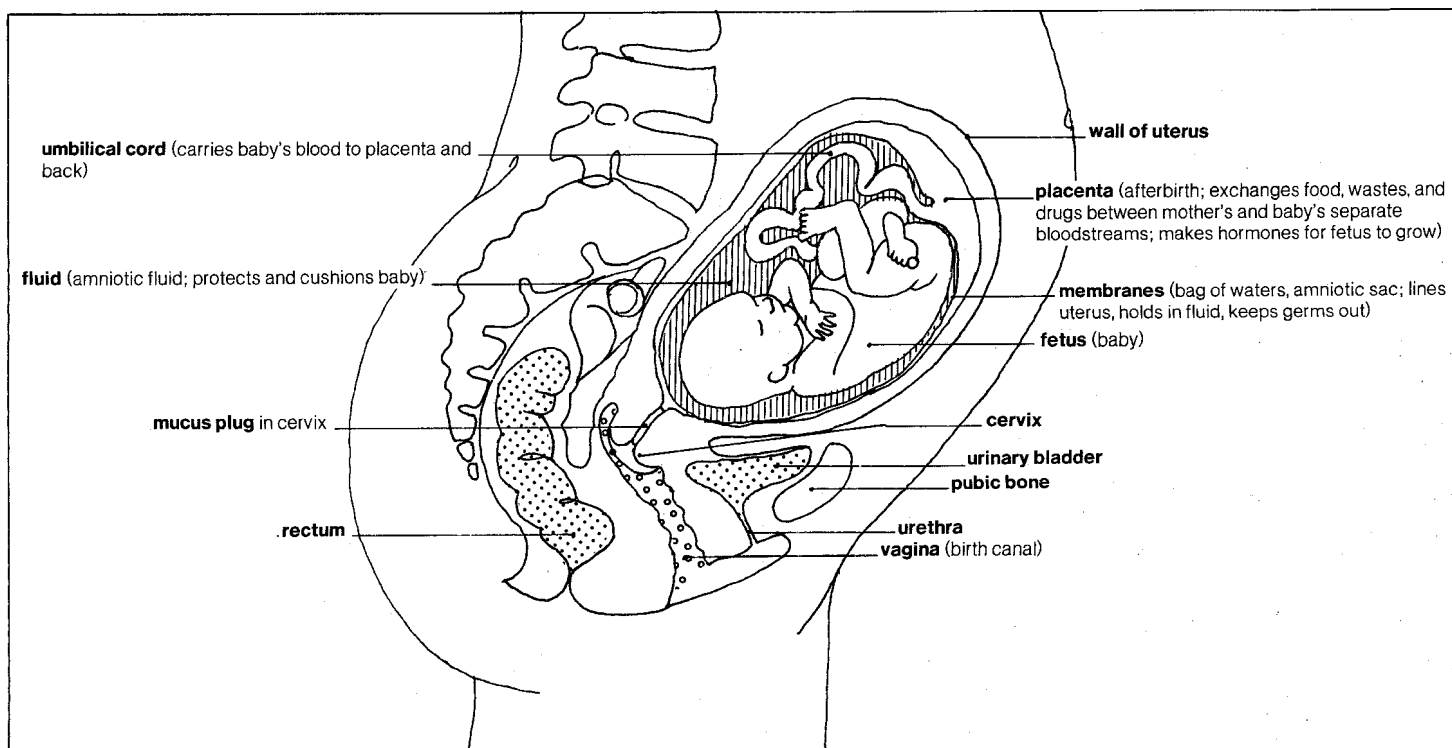
PREGNANCY: GENERAL INFORMATION

UNDERSTANDING WHAT HAPPENS

From the Beginning

Pregnancy begins when one sperm enters (fertilizes) the egg. This happens in woman's fallopian tube. Within six or seven days, the fertilized egg travels down the tube and attaches to wall of uterus.

The fertilized egg divides into tissue that forms the fetus (baby), placenta (afterbirth), and bag of waters (amniotic sac).



Pregnancy at 20 weeks: Anatomy and Function

A normal pregnancy lasts 40 weeks from first day of last normal menstrual period.

- Some health care providers divide pregnancy into three parts, called trimesters:
 - ☐ first trimester: first 3 months.
 - ☐ second trimester: second 3 months.
 - ☐ third trimester: last 3 months.
- When you check a prenatal patient:
 - ☐ decide how many *weeks* pregnant the woman is (p.153), rather than how many months or trimesters.
 - ☐ record and report weeks. It is more accurate.

Changes During Pregnancy

In the Woman

Every part of the body is changing. Hormone changes may cause nausea, vomiting, and headaches ("Minor Discomforts," p.156).

Emotional changes include:

- General:
 - ☐ changes in desire for affection and sexual intercourse.
 - ☐ possible problems adjusting to body shape changes.
- Weeks 0-12:
 - ☐ strong mood swings.
 - ☐ feelings of being unsure about being a mother, about body changes, and about other things.
- Weeks 13-25:
 - ☐ lots of energy.
 - ☐ a feeling of well-being.
 - ☐ interest in learning about herself and the baby.
 - ☐ thoughts about whether baby will be normal or not.
- Weeks 26-40:
 - ☐ a lot of interest in upcoming labor and birth.
 - ☐ need for lots of attention from others.
 - ☐ conflicting feelings: tired of being pregnant, yet afraid of birth; wanting and not wanting to be a mother.

In the Fetus

There are many changes as one cell of a fertilized egg becomes the 7½ pound baby we like to see:

- For details, see State of Alaska's prenatal booklets or other references.
- For objective information on a premature baby, see p.186.

DECIDING IF A WOMAN IS PREGNANT

Common Signs of Pregnancy

- One or more missed periods or an abnormal period.
- Nausea or vomiting, especially in morning.
- The need to urinate often.
- Enlarged or tender breasts with darkened nipples.

- An enlarging, firm abdomen (noticed 3 or 4 months after her last period).
- Most reliable signs:
 - ☐ fetal movements.
 - ☐ fetal heart heard.

Pregnancy Testing

Different pregnancy tests will have different directions. If your test does not have directions, contact your referral doctor or hospital laboratory for a copy.

Do a pregnancy test if a woman has missed her period by 2 weeks (6 weeks after her last period). This is as soon as a test will be positive.

Do the following:

- [1]** If possible, get an early morning, clean catch (p.144) urine sample.
- [2]** Do urine dipstick test. It should be negative for blood and protein. *If positive* for blood or protein:
 - Get another clean catch sample.
 - If still positive for blood or protein, contact your referral doctor. He may suggest you:
 - ☐ wait a week and repeat test, or
 - ☐ do test anyway.
- [3]** Follow directions on package.
- [4]** Repeat test in one week if:
 - Pregnancy test is negative but history suggests pregnancy.
 - Test is positive and woman had recent miscarriage or delivery.
 - You are not sure of results.

If Pregnant

Once you decide the woman is pregnant:

- Plan to report to your referral doctor.
- For routine prenatal care, go to "The First Prenatal Visit," p.153.
- If a woman tells you she wants to have an abortion, get information from your referral hospital or other sources.
 - ☐ an abortion is safer if done in the first 10 weeks of pregnancy.

GIVE REGULAR PRENATAL CARE

Schedule prenatal clinic as follows:

- Schedule two a month.
- Call it "Women's clinic." Doing this will make the pregnancy more confidential.
- Schedule prenatal clinic apart from regular patients:
 - ☐ this is more confidential.
 - ☐ pregnant women will not be exposed to as many infections.
 - ☐ patients will not have to wait a long time.

Start prenatal care early and check patients regularly.

- Prenatal care should begin in the first 3 months of pregnancy.
- Encourage women in your village to come to you as soon as they think they are pregnant.
- Prenatal care is important in order to:
 - ☐ decide due date more accurately.
 - ☐ promote good health for mother and baby.
 - ☐ help the woman avoid harmful things.
 - ☐ discover problems early.
- **Always record what you do.**

Plan for women's care with your referral doctor.

- Ask your referral doctor how you should report prenatal patients.
 - ☐ your area may have a Maternal and Child Health (MCH) Coordinator whom you will contact.
- Follow advice from your referral person.

If Patient Does Not Come To Clinic

There are several reasons why a pregnant woman may not come to clinic:

- She may not want others to find out, hiding her pregnancy with loose clothing.
- She may not want to have the baby or to talk about it with anyone.
- She may think prenatal care is not important.

Do the following:

- Visit with her in private.
- Reassure her that you will be confidential.
- Accept her feelings. Be sensitive as you tell her that early prenatal care is important.
- Find out if she has made a choice to:
 - ☐ keep the baby.
 - ☐ let someone adopt the baby.
 - ☐ end the pregnancy.
- Explain to her why regular prenatal care is important.
- Report to your referral doctor.

DELIVERY: PREVENTIVE MEDICINE

Avoid Village Deliveries

- Give regular prenatal care to find and plan for problems early.
 - ☐ example: woman with twins should leave early for the hospital.
- It is always better to transport the mother before birth rather than transporting the baby after birth, unless there is a chance the baby might be born during transport.
- A baby born in the village at less than 30 weeks of pregnancy only has a small chance of living, especially if he is sick. A baby born as early as 26 weeks of pregnancy has a chance of living only if he is born in a hospital able to care for a very sick newborn.

Plan Ahead for Deliveries

Even though you try to avoid village deliveries, review how to do deliveries:

- Especially if there is a woman in town who is 30 or more weeks pregnant.
- Breech deliveries are more common in women who go into premature labor.
- If a woman with a large uterus delivers a small baby, check her uterus. If it is still large, she may have twins.

Get together other health care providers that may be involved with a delivery. Make a work plan.

Keep your equipment/supplies ready to use in a "baby box" (p.165).

- Check it once or twice a year.
 - ☐ see if everything is there.
 - ☐ reorder things that will soon be outdated.
- If you can NOT keep some things in the box, write on side of box what is needed. Example: "Needed: Large pot for boiling water. ERGONOVINE (in refrigerator). Baby scale. Blood sugar test (Dextrostix®)."

PRENATAL VISITS

THE FIRST PRENATAL VISIT

The first prenatal visit takes much longer than return visits:

- Explain this to the woman.
- If time is short or woman is tired:
 - ☐ do what you can now.
 - ☐ give woman an appointment to finish what is left.

Fill out the standard prenatal forms used in your region.

- Read carefully. Complete all sections that you are able to.
- The information will help your referral doctor to decide if this is a high risk pregnancy.
- If you do NOT understand part of the form:
 - ☐ put a question mark on that part.
 - ☐ ask your referral doctor or PHN.

1. History

Get history as on your prenatal forms. Include the following:

1.1 Decide Date of Last Normal Menstrual Period (LNMP).

[1] Past history of periods:

- How many days from first day of one period to first day of next period?
 - ☐ do periods come regularly, every 26-30 days?
- How many days do periods last?
- how much flow/bleeding is there: heavy, medium, or light?
- How much cramping is there?

[2] Last menstrual period (LMP):

- Date of first day of bleeding? *If she has trouble remembering date:*
 - ☐ ask her to think of what was happening at the time (birthday, holiday, visits).
 - ☐ if she can not remember date, do NOT push her to make up a date.
- Was period normal for her?

[3] If last menstrual period was NOT normal:

- Ask about the period before.
- When was her last *normal* menstrual period?

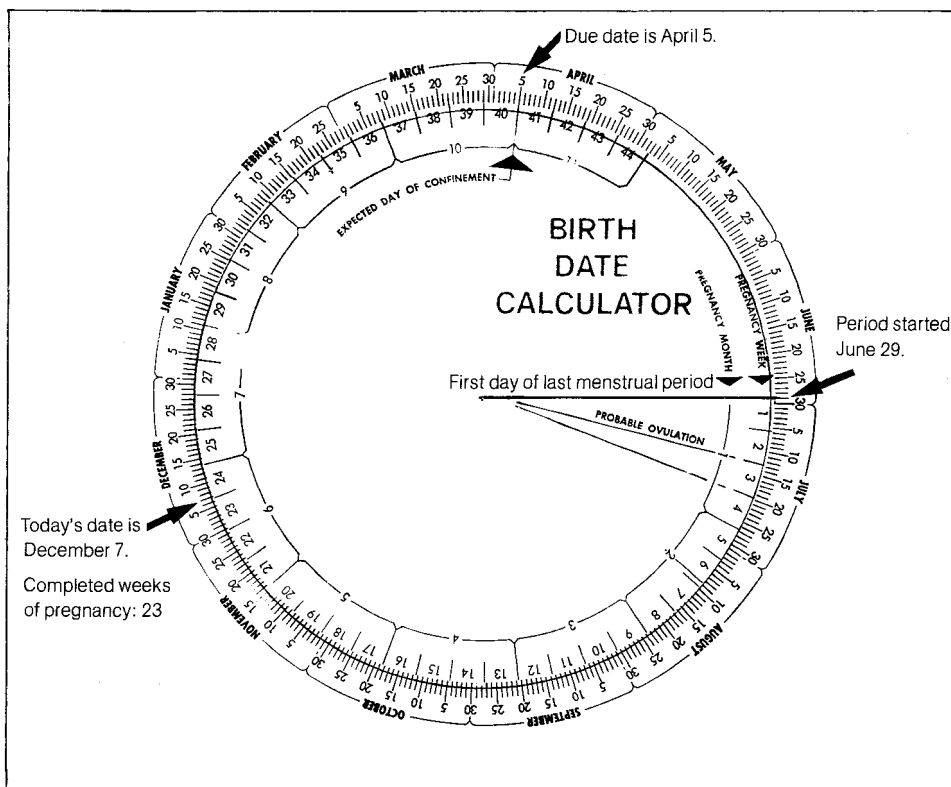
[4] Write down the following:

- Date of last menstrual period and if it was normal.
- If last menstrual period was NOT normal:
 - ☐ describe it. In what way was it abnormal?
 - ☐ also write down date of last *normal* menstrual period.

1.2 Decide Due Date and Weeks Pregnant.

[1] With birth date calculator, as in the example picture below:

- Place the line marked "First Day of Last (Normal) Menstrual Period" on date.
- Without turning the dial, find the arrow marked "Expected Day of Confinement" (EDC).
- Read the date right above the arrow. This is the woman's due date, within two weeks.
- Without turning the dial, find today's date.
- Read the number of completed weeks of pregnancy (weeks pregnant, weeks gestation).



Example

[2] If you do NOT have a birth date calculator, you can decide the due date as follows:

- Count back 3 months from the first day of her last normal menstrual period.
- Add 7 days to that date. For example:
 - ☐ last normal menstrual period started on June 29th.
 - ☐ count back 3 months to March 29th.
 - ☐ add 7 days to get April 5th.
 - ☐ April 5th is woman's due date, within two weeks.

1.3 Other History

If she has other problems, find out about them. In addition to things on the prenatal forms, find out the following:

[1] Does she have any concerns about this pregnancy?

[2] Is she happy or unhappy about being pregnant?

- Be sure to write on prenatal form if she wants to give baby up for adoption.

[3] What is her family and financial situation?

[4] Is she a hepatitis B carrier?

[5] Sometime early in prenatal care, do a "24 hour food recall" (p.447).

2. Exam

2.1 Do a screening physical exam (p.368).

2.2 Now go to the "Return Prenatal Visits" section, which follows.

- Do prenatal exam, assessment, and plan, the same as for return prenatal visits.

RETURN PRENATAL VISITS

1. History

1.1 As you begin, use the birth date calculator (p.153) to:

- Calculate due date again.
- Decide weeks pregnant (wks. gestation).

1.2 Ask the woman how she has been feeling since her last visit. Does she have any questions, concerns, danger signs (step 4.1), or minor discomforts (step 4.2)?

- If she has problems, find out more:
 - ☐ when does the problem happen?
 - ☐ what is she doing to make it better?
 - ☐ is she taking medicine or using any home remedies?

1.3 Has she felt the baby move (quickening)? Is baby active?

- If so, write down the date when she first felt baby kicking regularly.
- If not, tell her to remember the date when she first feels baby kicking regularly.
- The date is important for checking due date calculations.
- Normal: Woman feels movement (kicking regularly) at 16-20 weeks.

1.4 Ask about woman's diet at least every eight weeks.

- If needed, do a "24 hour food recall" (p.447).

2. Prenatal Exam

Record results on prenatal flow record.

2.1 Urine.

- Have woman urinate before exam.
- Check with dipstick for:
 - ☐ sugar.
 - ☐ protein.

2.2 Weight.

2.3 Vital signs: BP; others if having problems.

2.4 Uterus (p.403):

- Fundal height. Measure uterus from the top of pubic bone to top of uterus.
 - ☐ measure in centimeters.
- Presentation (how baby is lying inside uterus).
 - ☐ feel each visit after 28 weeks.
- Fetal heart rate.

2.5 Edema (swelling of skin).

- Observe face, hands, legs, and ankles.
- Check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds (p.397).

2.6 Lab tests. See chart 2.6. The following information may also help:

- If urine had protein in it:
 - ☐ test a second urine sample, clean catch (p.144).
 - ☐ ask woman about vaginal discharge, which may give a trace of protein on dipstick.
- *On first prenatal visit*, draw three red top tubes and separate the serum for blood tests that you send to hospital lab.
 - ☐ for blood type/Rh test, save the clot also. Send it in a separate tube.
 - ☐ write "Prenatal" on lab slips.
 - ☐ send the tubes to your hospital lab.
- *At or after 32 weeks*, draw 2 red top tubes and separate the serum for blood tests that you send to hospital lab.
- Do other tests asked for by your referral doctor.

3. Assessment

3.1 Your assessment should be:

Prenatal visit, ____ weeks pregnant.

3.2 Use chart 3.2. Include in your assessment:

- "Normal pregnancy," if no problems.
- Any problems you have found.
 - ☐ this includes problems other than those related to pregnancy. If needed, use this manual to help you make other assessments.

4. Plan

4.1 Report

Report to your referral doctor unless everything is normal and the doctor has signed for you to give normal prenatal care without contacting him.

- *Always report if you found anything that is NOT normal.*
- Report as soon as possible if patient has any of the following danger signs:
 - ☐ severe abdominal pain or vaginal bleeding (p.158).
 - ☐ burning on urination, possible urinary tract infection (p.125).
 - ☐ dizziness or fainting NOT made better by lying on the side.

- ☐ fever and chills (Also do screening physical exam, p.368).
- ☐ fluid leaking from vagina, possible break in bag of waters (p.161).
- ☐ possible preeclampsia (p.161):
 - high blood pressure.
 - sudden weight gain.
 - severe headaches that do not stop.
 - blurry vision or seeing spots in front of eyes.
 - swelling of face and hands.
 - protein in the urine.
- ☐ small sores or bumps on genitals, possible herpes (p.136).
- ☐ severe vomiting (p.163).
- ☐ baby is moving less or has stopped moving (Also get careful history and tell woman to keep good records of movement).
- While you are waiting to report, follow the guidelines in this manual.

Chart 3.2

NORMAL EXAM FINDINGS IN PREGNANCY

Weight gain	25-30 pounds total.
Weeks 0-28	12-15 pounds (2 lb./month).
Weeks 28-40	12-15 pounds (1 lb./week).
Blood Pressure	Same as patient's normal. May go down a little as pregnancy goes on. If patient's normal NOT known should be <i>less than 140/90</i> .
Fundal Height	
Week 12	At pubic bone.
Week 16	Midway between pubic bone and umbilicus.
Week 20	At umbilicus (20 cm.).
Weeks 20-32	20-32 cm. Often is same cm. as weeks. Grows 1 cm./wk
Weeks 32-36	Slow growth.
Weeks 36-40	Measures less as baby drops.

Fetal Heart	
First heard	20 weeks with fetoscope (12-16 weeks with Doptone®)
Rate	120-160 a minute, or 30-40 in 15 seconds.
Presentation	Head down by 36 weeks.
Edema (swelling)	Swelling of ankles in late pregnancy, but NOT swelling of legs, hands, or face.
Urine Dipstick	
Protein	Negative.
Sugar (glucose)	Negative.
Hemoglobin	11.0 or more.
20 week exam check list	<div> <div>[]</div> <div>Top of uterus is at umbilicus (20 cm.).</div> </div> <div> <div>[]</div> <div>Mother feels baby moving.</div> </div> <div> <div>[]</div> <div>Fetal heart heard with fetoscope.</div> </div>

Chart 2.6

Lab Tests to Check in Pregnancy

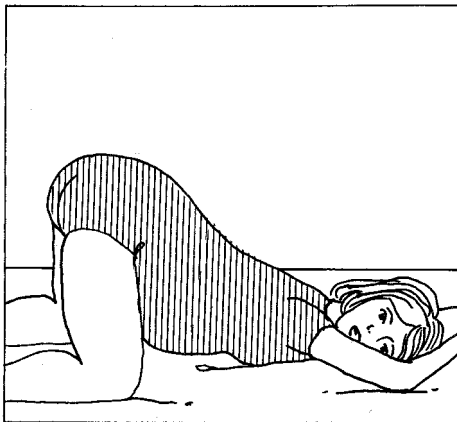
Lab Test	First Visit	Return Visits
URINE		
Sugar	x (Yes, do the test)	Every visit.
Protein	x	Every visit.
For infection (nitrite, leukocytes)	x	At 30 weeks, more often, if needed.
BLOOD		
Hemoglobin	x	At 32 weeks.
Blood Sugar	If obese (fat) or history of high blood sugar.	At 24-28 weeks, in all women.
VDRL (syphilis)	x	— (Not needed)
Hepatitis B surface antigen	— (Not needed)	At or after 32 weeks unless she has had 3 doses of vaccine or is immune.
Rubella titer	x	—
Blood type/Rh	x	—
GONORRHEA CULTURE	x	At 36 weeks.
PAP SMEAR	x	—
TB SKIN TEST (Mono-Vacc®)	If negative in past.	—

4.2 Treat Minor Discomforts of Pregnancy

Reassure the woman. Report to your referral doctor if the problem seems unusual, severe, or long-lasting.

Backache is usually caused by the weight of the baby in the uterus. It makes the woman arch her back. This pulls on the back muscles. Teach the woman to:

- Have good posture. Keep the buttocks tucked under and the belly tucked in.
- Wear flat shoes to help posture.
- When reaching to the floor:
 - ☐ bend at the knees, NOT at the waist. Keep back straight.
 - ☐ bring what is being lifted close to the body.
 - ☐ use the leg muscles to get up.
- Rest in the knee-chest position, and
 - ☐ get up slowly.
 - ☐ repeat as needed, a few times a day.



Knee-chest position.

- Do pelvic rock exercises (step 4.3).
- Sleep on a firm mattress.

Breast tenderness, nipple discharge.

Advise the woman to:

- Wear a well fitting cotton bra.
- Wash nipples to prevent a crust from building up.

Constipation. Treat the same as for constipation in any patient (p.79).

- If the constipation is not relieved by the above suggestions, the doctor

may suggest giving her 30 ml. (2 Tablespoons) of MILK OF MAGNESIA at bedtime for 1 or 2 days.

White discharge from the vagina.

Some increase in discharge is normal.

- It is usually clear or white in color without itching or odor. In this case, tell woman:
 - ☐ bathe daily.
 - ☐ use a mini-pad, and change often.
 - ☐ wear cotton underwear.
 - ☐ do NOT douche.
- If discharge is heavy, yellow or green, thick frothy, itchy, irritating or foul smelling:
 - ☐ woman may have a vaginal infection.
 - ☐ go to p.115. Consider other assessments, and report to your referral doctor.

Heartburn, when acids from the stomach irritate the esophagus, usually late in pregnancy.

- Advise the woman to:
 - ☐ eat 5-6 small meals a day. Avoid large meals.
 - ☐ avoid liquids at mealtime. Drink between meals.
 - ☐ avoid eating or drinking just before bedtime.
- Give other patient education, the same as for heartburn in any patient (p.81).
- If the above things do not help enough, give an antacid:

Give Mylanta II®, Amphojel®, or other antacid.

- **Dose: 1-2 teaspoons or as directed.**
- Patient may repeat every 3-4 hours as needed.

Hemorrhoids are enlarged or swollen veins of rectum/anus. Often they are caused by pressure of uterus on the veins. They are made worse by constipation.

- Teach the woman to:
 - ☐ rest in the knee-chest position (pictured above), and
 - get up slowly.
 - repeat as needed, a few times a day.

- ☐ do Kegel exercises (step 4.3).
- Reassure her that hemorrhoids will probably go away after delivery.
- Give other patient education, the same as for hemorrhoids in any patient (p.79).

Morning sickness (nausea and mild vomiting) is common during the first 14 weeks of pregnancy. It can be relieved.

- Advise the woman:
 - ☐ keep crackers at the bedside. Eat some:
 - if she gets up at night.
 - before getting out of bed in the morning.
 - ☐ eat 5-6 *small* meals a day.
 - try to keep something in the stomach.
 - do NOT fill the stomach. That will make nausea worse. Avoid liquids at meal time.
 - ☐ avoid greasy or spicy foods.
 - ☐ eat a snack high in protein (such as meat) before going to bed.
- If woman's vomiting is not controlled, see p.163, "Persistent Vomiting in a Pregnant Woman."

Sharp pain in lower abdomen (round ligament pain) is felt commonly on either side. It is caused by stretching of the ligaments that attach uterus to pelvis. Advise the woman to:

- Avoid sudden movements (turning, standing).
- Sit down and slowly pull up the knees to relax the ligaments. Try this in order to:
 - ☐ prevent pain when sneezing or coughing.
 - ☐ relieve the pain.

Swelling of ankles, feet is a common problem near the end of pregnancy. Teach the woman to:

- Rest with feet and legs up, as much as possible.
- Drink enough water (8 glasses a day).
- Avoid salt:
 - ☐ avoid eating salty foods (p.445).
 - ☐ avoid adding salt to food at the table.
- Eat more foods that are good sources of protein (p.448).

- Rest, on the left side, a few times every day. By doing this:
 - ☐ baby's weight gets off large blood vessels.
 - ☐ blood returns better to the heart and flows better to uterus and kidneys.

Frequent urination is normal during the first 12 weeks and after 35 weeks.

- It is caused by the uterus pressing on the bladder.
- If the woman also has burning on urination, fever, or a vaginal discharge:
 - ☐ she may have an infection.
 - ☐ follow the guidelines on p.124. Then contact your referral doctor.

Leaking urine when coughing or laughing. Patient should:

- Do Kegel exercises every day (step 4.3).
- Wear a small sanitary pad.

Enlarged leg veins (varicose veins) are caused when the growing uterus presses on the veins and blood can not easily flow up the leg.

- To prevent them, advise the woman:
 - ☐ avoid wearing tight clothing (girdles, garters, knee high stockings).
 - ☐ avoid standing for a long period of time. Walk or sit.
 - ☐ avoid sitting with legs crossed.
- If woman develops enlarged leg veins, she should rest in the middle of the day and elevate her legs.
- If woman gets pain in her legs, examine her and report to your referral doctor. This could be a serious problem.

4.3 Other Patient Education

Get patient education handouts from your referral hospital, PHN, or other sources.

It is especially important to:

- Teach the prenatal patient to see you right away if she has any danger signs (step 4.1).
- Talk about the part of pregnancy that woman is in and what is to come.

- Encourage delivery at hospital.
- Answer questions that the woman may have.

Give patient education at every visit. Be sure to include the following information:

Protect the baby. Teach the woman how to protect her unborn baby by following this advice:

- **Avoid tobacco** (smoking, breathing in smoke from others, chewing). Tobacco increases:
 - ☐ miscarriage.
 - ☐ premature birth.
 - ☐ stillbirth.
 - ☐ breathing trouble in infancy.
 - ☐ death in infancy.
- **Do NOT drink alcohol.** Alcohol increases:
 - ☐ miscarriage.
 - ☐ stillbirth.
 - ☐ premature birth.
 - ☐ "fetal alcohol syndrome," which includes growth problems and brain damage.
- **Avoid all other drugs.**
 - ☐ do NOT take medicines unless they are prescribed by a doctor who knows about the pregnancy.
 - ☐ do NOT take any illegal ("street") drugs.
 - ☐ avoid caffeine (coffee, tea, cola drinks, p.446).
- Avoid X-rays, especially in the early part of pregnancy.
- Travel with care when riding snowmachines and three wheelers. Do not go very fast or very far on them.
- Avoid very hot saunas, "steams" or hot tubs. The high temperature could harm the baby.

Follow general advice. If a woman is in good physical shape, she will usually have an easier time during labor and delivery. Teach about the importance of:

- A well-balanced diet, with the correct number of servings from four food groups every day (p.444).
- Rest and general exercise (Walking is excellent).
- Good posture, with the buttocks tucked under and the belly tucked in.

- Reaching to the floor and lifting correctly (bending at the knees, NOT at the waist).
- Dental care.
- Practicing breathing for labor (p.167).
- Sexual intercourse is OK up until the time she delivers. She should not have intercourse if:
 - ☐ her bag of waters has broken, or
 - ☐ she has vaginal bleeding.

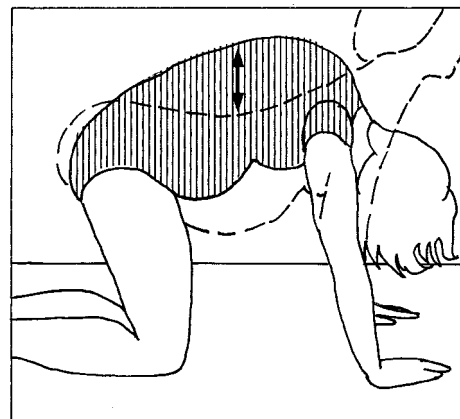
Do special exercises, including the following:

Kegel exercises are excellent for strengthening the muscles at the floor of the pelvis. Advise woman to do the following:

- During urination, stop and start the flow of urine several times. The muscles that she uses are the ones to exercise.
- Slowly tighten the vaginal muscles. Next, count to 10. Next, slowly relax.
- Tighten the anal muscles and relax.
- Tighten both and relax.
- Repeat these exercises many times a day:
 - ☐ try to work up to doing them 100 times a day.
 - ☐ they can be done almost any time.

Pelvic rock strengthens the abdomen and lower back and relieves sore back muscles:

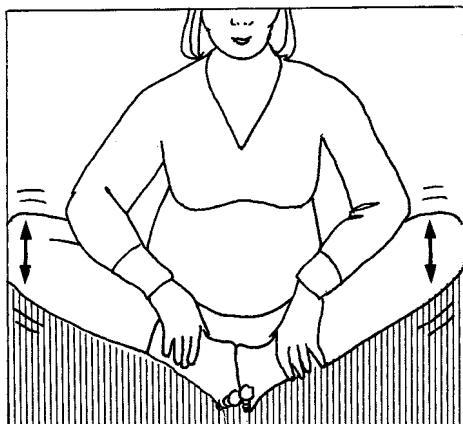
- Rock the pelvis front to back while standing, lying, or on all fours.
- Repeat 10 times.



Pelvic rock.

Saddle stretch stretches muscles of the inner thigh.

- Sit with knees out, soles of feet touching, hands on ankles.
- Touch chin to chest.
- Bounce knees toward floor 8 times quickly while you breathe in slowly.
- Repeat 4 times.



Saddle stretch.

Plan for after delivery. Talk with the woman about:

- Her plans for taking care of the baby, including feeding.
 - ☐ encourage breast-feeding (p.182).
- Family planning (p.145).
 - ☐ a resting period of 2 years between births is healthy.
 - ☐ if a woman wants to be sterilized by surgery at the time of delivery, she must sign a consent form thirty days or more before due date.

4.4 Medicine

- The woman should take vitamins and iron:

Give **VITAMINS with FOLIC ACID** (prenatal vitamins).

- **Dose: One tablet a day.**

AND :

Give **FERROUS SULFATE** (Iron; 325 mg. tablets)

• **Dose:**

- ☐ if hemoglobin is 12 or more: one tablet a day.
- ☐ if hemoglobin is 11-12: one tablet two times a day.
- ☐ if hemoglobin is less than 11.0, one tablet three times a day.

- Ask your referral doctor before giving any other medicines to a pregnant woman. Many medicines can cause problems for mother or baby.

4.5 Recheck

Make appointment for next visit.

- If everything is normal, recheck woman at these times:
 - ☐ if 0-32 weeks: once a month.
 - ☐ if 32-36 weeks: every 2 weeks.
 - ☐ if 36-40 weeks: every week, if still in village.
- If *something is NOT normal*, recheck more often:
 - ☐ if a serious problem, recheck at least once a day.
 - ☐ if not serious, recheck at least once a week. For example, if you can not hear fetal heart at 20 weeks, recheck woman once a week.

4.6 Other Plan

- Refer woman to WIC nutrition program.
 - ☐ if you are not sure who to contact, ask your PHN.
- If woman has family or money problems, refer her to social services, PHN, or others in your region.
- After the first prenatal visit, send your referral doctor all copies of the prenatal forms except the last copy.
 - ☐ the woman's pregnancy risk will be rated and any special plans will be made.
 - ☐ you should get back a copy of the prenatal flow record. Put the two copies together and fill them out on return prenatal visits.

- Plan to send the woman to the hospital for delivery. Do this according to guidelines in your region (usually when 37 weeks pregnant).
- When the woman goes to the hospital for delivery, send the hospital copy of her prenatal flow record with her.

PRENATAL PROBLEMS

BLEEDING FROM THE VAGINA, OR SEVERE ABDOMINAL PAIN, IN PREGNANT WOMAN

The most common reason for vaginal bleeding in the last three months of pregnancy is a **bloody show**:

- A small amount of bloody mucous discharge, from the cervical mucus plug.
- This is NOT A LOT of bright red bleeding.
- This, along with contractions, is a sign that labor may be beginning. *If you think the woman has a bloody show OR labor* contractions, report to your referral doctor.
- Have someone else contact the doctor while you go to p.165, "Labor."

Begin here for other bleeding or severe abdominal pain in pregnancy.

1. Emergency Care

- 1.1 Have patient rest, lying down.
- 1.2 Check vital signs: P, R, BP.
- Check P and BP with patient lying down, then sitting up.

- Treat for shock (p.7) if, when sitting up:
 - ☐ pulse gets higher by more than 20, or
 - ☐ systolic BP (top number) gets lower by more than 10.

1.3 Get history and examine quickly before you report to your referral doctor or arrange for transport to hospital.

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] If bleeding:

- How much bleeding is there?
 - ☐ heavy, medium, or light?
 - ☐ how often does she have to change a pad? Are pads filled with blood or not?
 - ☐ are there any clots?
- What color is the blood?
- Is there any tissue with the blood? Understand the difference between a clot and tissue:
 - ☐ a clot looks smooth and the same color all over, like "blood jelly."
 - ☐ tissue usually has rougher edges and some different colors (like liver).

2.2 Past Health History

[1] Illnesses:

- Gonorrhea (GC)?
- Infection in fallopian tubes (PID)?

[2] Female history. If you do not already know, ask about the following:

- Date of first day of last menstrual period (LMP)? Was it normal? *If NOT normal:*
 - ☐ in what way was it abnormal?
 - ☐ when was her last *normal* menstrual period (LNMP)?
- When is due date (p.153)? How many weeks pregnant is she?
- Bleeding earlier in this pregnancy?
- Bleeding in past pregnancies?
- Does she have an IUD in now?

2.3 Other History

[1] Does she have any other complaints, such as:

- Fever?
- Nausea or vomiting?
- Change in bowel movements, such as constipation or diarrhea?
- Discharge from the vagina?
- Feeling dizzy or faint?

[2] If she could feel baby move before the bleeding started, can she still feel movement?

3. Exam

3.1 Vital Signs: T, P, R, BP.

3.2 Genital area:

- Observe any bleeding, but do NOT put anything into vagina:
 - ☐ is bleeding from vagina or rectum?
 - ☐ how much is she bleeding?
 - ☐ what color is the blood?
 - ☐ can you see any tissue or clots?

3.3 Abdomen:

- Bowel sounds.
- Gently feel for tenderness/lumps.
 - ☐ *if tenderness*, check for rebound tenderness. Does it hurt more when you quickly let go (p.394)?
 - ☐ feel for hard, contracting uterus.
- Uterus measurement (fundal height).
 - ☐ record the measurement.
 - ☐ mark the top of uterus with a pen, to compare with later exam.
 - ☐ compare this measurement with where it should be for the number of weeks of pregnancy (p.404).
- Fetal heart rate. Also, note location.

3.4 Lab test: Hemoglobin.

4. Assessment

4.1 Your assessment should be: **Bleeding from vagina, or severe abdominal pain, in a pregnant woman**, either:

- **In the first 25 weeks of pregnancy** (Plan 5.1), or
- **After 25 weeks of pregnancy** (Plan 5.2).

5. Plan

5.1 Plan: If In First 25 Weeks of Pregnancy

[1] Report NOW to your referral doctor. This is a possible miscarriage (abortion).

If you can NOT reach a doctor:

- Follow this plan until you can.
- Arrange for transport to hospital if one of the following is true:
 - ☐ woman has lots of bleeding.
 - ☐ assessment is possible ectopic pregnancy or molar pregnancy (see chart 5.1).
 - ☐ on abdominal exam, patient has rebound tenderness (hurts more when you quickly let go).
 - ☐ you think patient needs emergency care at the hospital.

[2] If transporting, special care should include the following:

- Have patient lie down, in position that feels best.
- Give nothing by mouth.
- Stay nearby.
- Reassure the patient.
- Recheck vital signs (and fetal heart rate, if heard) every hour, more often if patient is bleeding or getting worse. If shock (weak, fast pulse; low BP), now go to p.7.
- *If transport is delayed:*
 - ☐ if woman needs fluid to prevent dehydration, give clear liquids by mouth.
 - ☐ continue to follow this plan until you can transport.

[3] If woman has abdominal pain only and no bleeding, consider other assessments:

- Abdominal pain as in woman who is NOT pregnant (p.63).
- Minor discomforts of pregnancy (p.156).

[4] Special care should include the following:

- Patient education:
 - ☐ activity: little or none. Patient should rest, quietly in bed.
 - ☐ diet: clear liquids until she is OK on recheck.

- ☐ tell her, "Do NOT put anything into the vagina. Save any tissue that passes."
- *If she passes any tissue or a fetus:*
 - ☐ put it in a container with FORMALIN or 0.9% SODIUM CHLORIDE (normal saline). Label the container.
 - ☐ plan to send it to your referral hospital laboratory, but wait to talk to your referral doctor. Hospital may NOT want you to send it, if family wants burial.

[5] Medicine may include the following:

- *If needed for pain:*
 - ☐ give ACETAMINOPHEN (Tylenol®; p.416).
 - ☐ *if pain is severe*, patient is NOT in shock, and you can NOT reach a doctor, give an I.M. shot of MEPERIDINE (Demerol®) or MORPHINE (p.417).
- *If woman has heavy bleeding after a miscarriage:*

Give **METHYLERGONOVINE** (Methergine®; 0.6 mg. tablets)

- Give only if woman has heavy bleeding **AND** if the following is true:
 - ☐ *if less than 12 weeks pregnant*, you are sure that the woman has passed a piece of tissue (not a blood clot) one inch or larger.
 - ☐ *if more than 12 weeks pregnant*, you see a delivered fetus and placenta tissue.
- **Dose: 0.2 mg. (one tablet) every 4 hours for a total of 6 doses.**

[6] Recheck as follows:

- Recheck patient at home in 6 hours, sooner if patient looks sick, is bleeding, or is getting worse.
- Check vital signs: T, P, BP. If shock (weak, fast pulse; low BP), now go to p.7.
- Plan to transport to hospital if she:
 - ☐ continues to bleed more than her normal period.
 - ☐ continues to bleed like a normal period for more than 24 hours.

Chart 5.1

BLEEDING OR ABDOMINAL PAIN IN FIRST 25 WEEKS OF PREGNANCY: TWO ASSESSMENTS AND TYPICAL FINDINGS

ECTOPIC PREGNANCY [tubal pregnancy; pregnancy in fallopian tube; happens in first 8 weeks of pregnancy]

History:

- Woman may NOT know she is pregnant.
- Often has history of all three of the following:
 - ☐ **last period was late.**
 - ☐ **abnormal vaginal bleeding.**
 - ☐ **pain in the low abdomen.**
- May have history of infection in fallopian tubes (PID) or of using IUD.

Exam:

- May have low fever.
- Low abdomen: Tenderness; may feel lump (mass).
- *If ruptured*, you may see signs of bleeding into the abdomen (severe pain, shock, firm tender abdomen).

MOLAR PREGNANCY

[hydatidiform mole, "tumor;" has a chance of becoming cancerous]

History:

- Vaginal bleeding.
- Passing tissue that looks like reddish grapes.
- May have severe nausea and vomiting.

Exam:

- Uterus: growing faster than normal.
- May have signs of preeclampsia: weight gain, high BP, edema (swelling) of face and hands, protein in urine.

5.2 Plan: If After 25 Weeks of Pregnancy

[1] Report NOW to your referral doctor. Woman may deliver, or bleeding may become severe.

If you can NOT reach a doctor:

- Follow this plan until you can.
- Arrange for transport to hospital, even if bleeding stops.

[2] If woman has abdominal pain only and no bleeding, consider other assessments:

- Abdominal pain as in woman who is NOT pregnant (p.63).
- Minor discomforts of pregnancy (p.156).

[3] Transport patient to hospital as soon as possible. While you are waiting, and during transport, your plan should include the following:

- Position: Patient should lie down, on side, as much as possible (left side is best).
- Give nothing by mouth.
- Do NOT put anything into vagina or rectum. This includes NO pelvic exam, tampon, or intercourse.
- Stay nearby.
- Reassure the patient.
- Recheck vital signs and fetal heart rate every hour, more often if she is bleeding or getting worse. If shock (weak, fast pulse; low BP), now go to p.7.
- Transport very gently.
 - ☐ take delivery equipment/supplies with you, just in case ("baby box," p.165).
- *If transport is delayed:*
 - ☐ if woman needs fluid to prevent dehydration, give clear liquids by mouth.
 - ☐ she may go into labor. Be ready to do a delivery (p.169). After delivery, someone should stay nearby. She may bleed more than normal.

FLUID LEAKING FROM THE VAGINA (Possible Break in Bag of Waters)

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Find out about the fluid:

- How much fluid came out?
- How much is coming out now?
- What color is the fluid?

[2] Has she felt any contractions (labor pains)? If so:

- When did they start?
- How many minutes from the start of one contraction to the start of the next?
- If they are regular (coming at the same time intervals):
 - ☐ when did they become regular?
 - ☐ are they coming closer and closer in time?
- How long does each one last?
- How strong are they (mild, medium, strong)?

1.2 Other History

[1] Be sure you know her due date and weeks pregnant (p.153).

[2] Does she have any other complaints?

2. Exam

2.1 Vital signs: T, P, R, BP.

2.2 Abdomen:

- Feel the uterus for contractions. If contractions, check:
 - ☐ how often do they come (minutes from start of one to start of the next)?
 - ☐ how long does each one last?
 - ☐ how hard do contractions feel to you (mild, medium, strong)?
- Fetal heart rate.

2.3 Genitals:

- To help prevent infection, do NOT touch vagina or put anything inside vagina.
- Put a pad under woman's hips.
- Observe for fluid:
 - ☐ how much fluid is there?
 - ☐ what color is the fluid?

3. Assessment

3.1 If you have found fluid leaking out of the vagina, your assessment should be:

Ruptured membranes (broken bag of waters), either:

- **With regular contractions** (Plan 4.1), or
- **Without regular contractions** (Plan 4.2).

4. Plan

4.1 Plan: With Regular Contractions

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor, decide if you think there is time to get her to the hospital safely before delivery. Now go to "Plan for Labor," p.166.

4.2 Plan: Without Regular Contractions

In this case:

- If near her due date, regular contractions of labor will usually begin within 24 hours.
- If in early pregnancy, premature labor or infection may result.

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.
- Have someone arrange for transport to hospital.

[2] Transport patient to hospital as soon as possible. While you are waiting to transport, your plan should include the following:

- Be prepared for her to deliver in the village (p.165).
 - ☐ get equipment and supplies ready.
 - ☐ plan for a premature infant, if less than 36 weeks pregnant.
- Patient education:
 - ☐ rest in bed. It is OK to get up for meals and to go to the toilet.
 - ☐ do NOT put anything into vagina. This includes NO tampon or intercourse.
- Every 2 hours, have someone take her temperature.
- Every 4 hours, recheck:
 - ☐ vital signs: T, P, R, BP.
 - ☐ fetal heart rate.
 - ☐ uterus for tenderness (possible infection) or contractions (labor, p.165).
- When transporting, take delivery equipment/supplies with you, just in case ("baby box," p.165).

PREECLAMPSIA

Preeclampsia ("toxemia"):

- High blood pressure,
- Sudden weight gain,
- Swelling (edema) that includes hands and face, and
- Protein in the urine.

Begin here if you think woman may have preeclampsia.

1. History

1.1 Does woman have symptoms of preeclampsia, such as:

- Sudden weight gain?
- Severe headaches that do not stop?
- Sleepiness or confusion?
- Change in vision, such as blurry vision or seeing spots?
- Swelling of face and hands (Example: a tight ring)?
- Burning pain in upper abdomen?
- Passing less and less urine?

2. Exam

2.1 Vital signs: T, P, R, BP.

- If BP is high, recheck after woman lies on left side for 10 minutes.

2.2 Weight.

- Decide total weight gain during pregnancy.

2.3 Abdomen:

- Uterus measurement (fundal height).
- Fetal heart rate.

2.4 Edema (swelling of skin).

- Observe face, hands, legs, and ankles.
- Check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds.

2.5 Nervous system.

- Tendon reflexes at knee and in front of elbow.

2.6 Lab test:

- Urine dipstick for:
 - ☐ protein (albumin).
 - ☐ glucose (sugar).

3. Assessment

3.1 Use chart 3.1.

3.2 Your assessment should be either:

- **Preeclampsia** (Plan 4.1), or
- **Severe preeclampsia** (Plan 4.2).

4. Plan

4.1 Plan: Preeclampsia

If preeclampsia is treated early, and patient is rechecked carefully, there is little risk to the mother or child. If it is not treated, the woman can get worse, have convulsions (eclampsia), and die.

[1] Report to your referral doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.
- If you think woman needs emergency care at the hospital, arrange for transport.

[2] Patient education should include information in chart 4.1.

[3] Recheck as follows:

- Recheck on home visit:
 - ☐ if BP was high, recheck it in about 6 hours.
 - ☐ for other patients, recheck at least once a day.

Chart 3.1

PREECLAMPSIA: ASSESSMENTS AND TYPICAL FINDINGS

PREECLAMPSIA

Exam. Woman has two or more of the following signs:

- BP increase:
 - ☐ 140/90 or more, or
 - ☐ higher than patient's normal:
 - 30 mm. systolic increase, or
 - 15 mm. diastolic increase.
- Weight gain of 3 lbs. or more in one week.
 - ☐ this is often the first sign of preeclampsia.
- Edema (swelling) of the legs, hands, or face.
 - ☐ can be either pitting edema or puffiness.
 - ☐ often goes along with weight gain.
- Urine protein of 1+ or more.

SEVERE PREECLAMPSIA

In addition to two signs above, woman *a/so* has one of the following:

History:

- Severe headaches that do not stop.
- Change in vision.
- Nausea.
- Passing less and less urine.

Exam:

- Severe anxiety, worry, restlessness.
- Sleepy or confused.
- BP 160/110 or more.
- Tendon reflexes are stronger than normal and getting stronger.
- Urine protein of 3+ or more.

- Check:
 - ☐ BP.
 - ☐ weight, if possible.
 - ☐ fetal heart rate.
 - ☐ edema.
 - ☐ tendon reflexes.
 - ☐ urine dipstick.

Chart 4.1

Patient Education PREECLAMPSIA

1. In preeclampsia, the body holds on to fluid. This causes swelling that affects the whole body:
 - Weight increases.
 - Legs, hands, and face swell.
 - Kidneys leak protein into the urine.
 - Brain swelling can cause headaches and change of vision.
2. You should rest in bed until the CHA/P says your urine and blood pressure are normal. This means:
 - No cooking, cleaning, or child care.
 - Someone should help you at home.
 - It is OK to get up for meals and to go to the toilet.
3. Position: Lie on your side as much as possible, to help blood flow.
4. Drink enough water (8 glasses a day).
5. Avoid salt.
 - Avoid eating salty foods (p.445).
 - Do NOT add salt to food at the table.
6. Eat more foods that are good sources of protein (p.448).

4.2 Plan: If Severe Preeclampsia

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor:

- Have someone arrange for transport to hospital.
- While you are waiting to transport:
 - ☐ have someone stay with woman at all times. Teach a helper emergency care for seizure (p.270).
 - ☐ observe for coma or seizures.
 - ☐ give the same patient education as for "preeclampsia" (chart 4.1).

SEIZURE (CONVULSION) IN PREGNANT WOMAN: ECLAMPSIA

1. Emergency Care

1.1 Give the same emergency care as for any seizure. Now go to p.270.

1.2 After seizure stops, follow these steps.

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] How did the seizure start?

- Before seizure started, did patient get a warning (strange feeling, "aura")?

[2] What exactly happened?

- What movements did woman make? Did both sides of body move the same?
- Did she urinate or have a bowel movement?
- Did she injure herself?
- How many times did patient have a seizure?
 - ☐ how long did each seizure last?

[3] Does patient have any symptoms of preeclampsia:

- Sudden weight gain?
- Severe headaches that do not stop?
- Sleepiness or confusion?
- Change in vision, such as blurry vision or seeing spots?
- Swelling of face and hands (Example: a tight ring)?
- Burning pain in upper abdomen?
- Passing less and less urine?

2.2 Other History

[1] Past history of seizures?

[2] Does patient have any other complaints?

3. Exam

Do a screening physical exam (p.368). Also check the following:

3.1 Abdomen:

- Uterus measurement (fundal height).
- Fetal heart rate.

3.2 Edema (swelling of skin).

- Observe face, hands, legs, and ankles.
- Check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds.

3.3 Lab test:

- Urine dipstick for:
 - ☐ protein (albumin).
 - ☐ glucose (sugar).

4. Assessment

Your assessment should be:
Seizure, in pregnant woman, probable eclampsia.

5. Plan

5.1 Report NOW to your referral doctor. This patient needs emergency care at the hospital.

If you can NOT reach a doctor:

- Follow this plan until you can.
- Have someone arrange for transport to hospital.

5.2 Consider other assessments that you can treat. If woman has history of seizures, or is in first half of pregnancy and has no signs of preeclampsia (p.162), go to p.270, "Seizure." Examine, and consider other assessments.

5.3 Transport patient to hospital as soon as possible. While you are waiting, and during transport, your plan should include the following:

- Patient should rest in bed, in a quiet dark room.
- Patient should lie on her side (left side is best), to help blood flow.
- Stay nearby.
 - ☐ reassure patient.
 - ☐ observe. Be ready to treat another seizure.

- Recheck at least every hour: P, R, BP, fetal heart rate.
- If patient is awake and can swallow without choking, allow her to drink clear liquids.
- If patient can NOT swallow without choking, your plan should include the following:
 - ☐ diet: nothing by mouth.
 - ☐ if patient needs fluid to prevent dehydration:
 - start an I.V. (p.427). Use 5% DEXTROSE AND 0.9% SODIUM CHLORIDE, if available.
 - run I.V. at "maintenance rate" (p.434).
- Watch for signs of labor. If patient delivers in the village, do NOT give METHYLERGONOVINE or ERGONOVINE after delivery. It will make her blood pressure higher.

5.4 Other plan depends on your referral doctor's assessment and plan.

- Doctor *may* advise you to give I.M. injections of 50% MAGNESIUM SULFATE:
 - ☐ 5 Gm. (10 cc.) injected slowly into each buttock (total of 20 cc.).
 - ☐ if reflexes continue to be stronger than normal, a single injection of 5 Gm. (10 cc.) every 4-6 hours.

PERSISTENT VOMITING IN A PREGNANT WOMAN

Begin here if patient with morning sickness or vomiting in pregnancy is not controlled by the usual treatment for minor discomforts of pregnancy (p.156).

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** What is the vomiting like now?
- How often does she vomit?
 - How much vomit does she have each time?
 - What does the vomit look like?
 - ☐ food?
 - ☐ blood or "coffee grounds?" *If so, now go to p.80, "Severe Digestive System Bleeding."*
 - ☐ bile (yellow or green, tastes bitter)?
 - Is patient able to keep down any food or drink?
- [2]** What makes it better or worse?
- Does it help to have many small meals?
- [3]** Does patient have other problems of the digestive system, such as:
- Loss of appetite?
 - "Heartburn" or indigestion?
 - Abdominal pain or swelling?
- [4]** Does patient have warning symptoms of dehydration?
- Very thirsty?
 - Dry mouth?
 - Urine:
 - ☐ little or no urine passed in 8 hours?
 - ☐ urine that is passed is dark, strong smelling?

1.2, Other History

- [1]** Does patient have other complaints, such as:
- Fever or chills?
 - Weight loss or gain?

2. Exam

Do a screening physical exam (p.368). Also check the following:

- 2.1** Vital signs:
- *If patient looks very sick, check P and BP with patient lying down, then sitting up.*
 - ☐ treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.
- 2.2** Abdomen:
- If rebound tenderness (hurts more when you quickly let go), now go to p.158.

- Uterus measurement (fundal height).
 - Fetal heart rate.
- 2.3** Edema (swelling of skin).
- Observe face, hands, legs, and ankles.
 - Check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds.
- 2.4** Nervous system.
- Tendon reflexes at knee and in front of elbow.
- 2.5** Skin:
- Check for dehydration: Gently pinch a fold of skin and quickly release (p.412).
- 2.6** Lab test:
- Urine dipstick for:
 - ☐ protein (albumin).
 - ☐ glucose (sugar).
 - ☐ ketones.

3. Assessment

3.1 Your assessment will be:
Persistent vomiting in a pregnant woman.

Women who get this are likely to be in their first pregnancy.

3.2 Include in your assessment if patient has weight loss or other signs of dehydration. Use the chart on p.71, if needed.

4. Plan

4.1 Report to your referral doctor. Report NOW if patient has weight loss or other signs of dehydration.

- While you are waiting to report, follow this plan.

4.2 Patient education should include the following:

- Reassure woman that she should get better if she follows this plan.
- Activity: Little or none. Patient should rest in bed, in a quiet room.
- Diet: She should drink small amounts of clear liquids often, for 12 hours, and slowly return to her usual diet.
 - ☐ if needed, see diet plan for vomiting on p.75.

4.3 Recheck as follows:

- Recheck at these times:
 - ☐ every few hours if patient is very sick or is NOT getting better, including if patient has:
 - severe headache or change in behavior.
 - abdominal pain or swelling.
 - weight loss or other signs of dehydration.
 - ☐ in 24 hours, if patient is NOT very sick.
 - ☐ every 1-2 days until OK.
- Get history:
 - ☐ is patient having any vomiting?
 - ☐ how much liquid has patient taken? Has she taken any other food?
- Examine:
 - ☐ vital signs.
 - ☐ weight. Any change?
 - ☐ fetal heart rate, if heard.
- If patient vomits all liquid, has signs of dehydration, and you can NOT reach a doctor, do the following:
 - ☐ give her medicine for vomiting:

Medicines for vomiting are listed in order of recommended treatment. Give an adult ONE of the following choices:

- PROMETHAZINE** (Phenergan®) suppositories:
 - Give **one 25 mg. rectal suppository.**
- PROCHLORPERAZINE** (Compazine®) suppositories:
 - Give **one 25 mg. rectal suppository.**
- PROCHLORPERAZINE** (Compazine®) injection:
 - Give **I.M. shot of 5 mg..**
- CHLORPROMAZINE** (Thorazine®) injection:
 - Give **I.M. shot of 25 mg.**

- ☐ continue with rest and liquids.
- ☐ recheck her often.
- ☐ *if medicine does NOT help or is not available:*
 - this patient probably will need transport to hospital.
 - consider starting an I.V. (p.427).

LABOR

Begin here if you think that a woman may be in labor.

General Approach

If at any time you think the woman is in labor and will deliver *soon*, go to:

- "Plan for Labor" (in this section), and
- "Doing a Delivery" (p.169).

If you are called to the woman's house:

- Before going to her house:
 - ☐ get her prenatal chart.
 - ☐ check her due date and number of weeks pregnant.
- Take with you:
 - ☐ her prenatal chart.
 - ☐ your "black bag" with
 - thermometer.
 - watch.
 - BP cuff.
 - stethoscope.
 - fetoscope.
 - ☐ your "baby box" (chart A) if there is any chance she will deliver soon.

Stay calm, and work fast.

- Reassure the woman and family that labor and delivery are normal events.
- Get information and report to your referral doctor as soon as possible.

Chart A "BABY BOX"

Equipment/supplies needed:

For cleaning:

- POVIDONE-IODINE (Betadine®) scrub or other soap.
- Wash basin.
- Brush for scrubbing hands.

To protect mattress:

- Large plastic trash bags, or
- Waterproof sheet.

Blanket for rolling up under hips

Pots:

- 1 for boiling instruments.
- 1 large pot for boiling water for washing.

Bedpan, for woman to urinate in after bag of waters breaks

An OB pack, which has:

- Gown for CHA/P (some do NOT have).
- Sterile drapes.
- 1 bulb syringe (for suctioning baby's nose and mouth).
- 1 cord clamp.
- Sterile 4x4's (gauze sponges).
- 1 plastic placenta pan.
- 1 sanitary pad (Kotex®) & belt.

Instruments:

- Extra bulb syringe.
- 1-2 more sterile cord clamps.
- Sterile scissors.

Sterile gloves, 2-3 pairs

Extra 4x4's

2 large, clean towels (drying baby)

Strong flashlight

2-3 baby blankets.

To keep sick or small baby warm:

- Plastic wrap (Saran® wrap).
- Infant stocking cap (clean sock or Stockinette®).
- Hot water bottles.

ALCOHOL or POVIDONE-IODINE wipes

Medicines:

- Two doses of ERGONOVINE (Ergotrate®; 0.2 mg./ml.) for I.M. injection (Keep in refrigerator).
 - ☐ if needed, include 3 cc. syringes & 22G x 1½" needles.
- Six METHYLERGONOVINE (Methergine®; 0.2 mg.) tablets.
- Neonatal PHYTONADIONE (Vitamin K, AquaMEPHYTON®; 1 mg./0.5 ml.) for I.M. injection.
 - ☐ include 1 cc. tuberculin syringes and 5/8" needles.
- ERYTHROMYCIN ointment OR SILVER NITRATE wax droppers for baby's eyes, and sterile needle to put hole in the wax.

Have available:

- Baby scale.
- Blood sugar heelstick test materials (Dextrostix®).

1. History

1.1 Ask the woman about her contractions:

- When did they start?
- How many minutes from the start of one contraction to the start of the next?
- If they are regular (coming at the same time intervals):
 - ☐ when did they become regular?
 - ☐ are they coming closer and closer in time?
- How long does each one last?
- How strong are they (mild, medium, strong)?

1.2 Find out about other symptoms of labor. Has she had:

- A bloody show (blood stained mucus) from the vagina?
- A sudden flow or leaking of fluid from the vagina (ruptured membranes)? If so,
 - ☐ when did that happen?
 - ☐ what color was the fluid?

1.3 Find out other history if you do not know:

- How many babies has she had?
- How long did her other labors last?
- Did she have any serious problems with other deliveries, such as:
 - ☐ breech delivery?
 - ☐ severe bleeding?
 - ☐ problems with the placenta?
- Has she had problems in this pregnancy, such as:
 - ☐ alcohol or other drug abuse?
 - ☐ bleeding?
 - ☐ abnormal prenatal exam?

2. Exam

2.1 General appearance.

2.2 Vital signs: T, P, R, BP.

2.3 Genitals:

- Observe opening of vagina, but do NOT put anything into vagina. Note:
 - ☐ fluid.
 - ☐ blood.
 - ☐ signs of delivery coming soon:
 - bulging in the area below the vagina (perineum).
 - you can see parts of the baby.

2.4 Abdomen:

- Fetal heart rate.

- Feel contractions (top of uterus) with your fingertips.
 - ☐ time contractions with a watch:
 - how often do they come (minutes from start of one to start of the next)?
 - how long does each one last?
 - ☐ how hard do contractions feel to you (mild, medium, strong)?
- In between contractions, feel for presentation: Is baby's head down?

3. Making the Assessment of Labor

3.1 Use chart 3.1

Chart 3.1

MAKING THE ASSESSMENT OF LABOR

FALSE LABOR

Woman has contractions that are:

- NOT regular.
- NOT getting longer or stronger.
- Made less by walking or changing position.

She has NOT had a flow of fluid from the vagina (ruptured membranes).

LABOR

Woman has *regular contractions*.

Contractions may be:

- Lasting longer.
- Feeling stronger.
- Getting closer in time.
- Made stronger and closer in time by walking.

Also, she may have had:

- Blood stained mucus "show".
- Flow of fluid from the vagina (ruptured membranes).

3.2 Your assessment should be one of the following:

- **False labor.** If so, while you are waiting to report to the doctor:
 - ☐ reassure the woman.
 - ☐ have her rest at home until the doctor advises differently.
 - ☐ have someone stay with her.
- **Labor.** If so, now go to the plan which follows.

4. Plan for Labor

4.1 Decide to Transport or Keep In Village

If there is time to transport, it is best for woman to deliver at the hospital, especially if:

- This is her first pregnancy.
- She has had problems with this pregnancy or with past deliveries.
- Weather is good for safe transport.

[1] Report NOW to your referral doctor. **If you can NOT reach a doctor,** follow this plan until you can.

[2] Decide if you think there is time to safely transport the woman to the hospital *before* delivery. It is NOT easy to decide. The following information will help:

- From the time *regular contractions start*, labor may last 1-24 hours.
 - ☐ in first pregnancy, average labor lasts 12 hours.
 - ☐ after first pregnancy, average labor lasts 8 hours and less.
- As labor goes on, contractions come closer together in time, last longer, and feel harder.
- From the time when contractions come *every 5 minutes*, labor may last 1-20 hours (average time is about 5 hours).
- Keep in mind what you know about this woman and other patients in labor.
 - ☐ if woman's contractions are longer and stronger than normal, this will make her labor shorter.
 - ☐ if contractions are coming every 3 minutes, do not transport.

[3] *If there is enough time to transport*, take equipment/supplies with you ("baby box," Chart A), just in case.

[4] *If there is NOT enough time to transport OR if you are NOT sure:*

- Plan for woman to deliver in the village.
 - ☐ it is better for her to deliver in the village than on the way to the hospital.
- Have a helper get your "baby box" (chart A), if you do not already have it.
- Continue to follow this plan.

- As soon as possible, you should:
 - ☐ get set up for delivery (step 4.3).
 - ☐ review "Doing a Delivery" (p.169).

4.2. Care For Patient During Labor

[1] Prepare for labor as follows:

- Put the woman in the cleanest, warmest room possible.
- Get a helper or two:
 - ☐ to take care of baby right after birth.
 - ☐ to help in other ways while you work on problems.
- Get the bed ready:
 - ☐ if it is not a firm mattress, put a piece of plywood under mattress.
 - ☐ cover mattress with plastic trash bags or a waterproof sheet.
 - ☐ cover the plastic with newspaper or towels.
 - ☐ cover it all with a clean sheet.

[2] Patient education should include the following:

- Reassure the woman and family:
 - ☐ explain what is happening.
 - ☐ have the woman choose a "coach" (husband, friend) to stay by her head during labor.
- Diet: She may drink clear liquids:
 - ☐ hot tea with sugar, soda pop, Tang®, clear soups.
 - ☐ NO alcohol or solid food.
- Activity:
 - ☐ let her walk around the room if she wants to.
 - ☐ after bag of waters breaks, she should stay in bed.
 - ☐ remind her to urinate every 2 hours. A full bladder can get in the way of the baby.

[3] Recheck as follows:

- Recheck every 30 minutes, more often if something is NOT normal:
 - ☐ pulse.
 - ☐ BP (check in between contractions, with woman on her side).
 - ☐ fetal heart rate (check during AND after a contraction).

- Recheck contractions:
 - ☐ how often do they come? Are they coming closer and closer in time?
 - ☐ how long does each one last?
 - ☐ how hard do contractions feel to you (mild, medium, strong)?
- Recheck fetal heart rate more often as labor progresses (every 5-15 minutes when delivery is near).

[4] Help with breathing and relaxing. Remind her how to breathe during contractions and relax in between.

- Tell her she should not push until she feels like pushing.
- As labor goes on, her "coach" should encourage and remind the patient how to breathe, as follows.

In early labor: slow deep breathing, about 10 times a minute:

- Breathe in through the nose:
 - ☐ slowly and deeply.
 - ☐ let the breath lift up the abdominal muscles.
- Slowly breathe out through the mouth.

In active labor: pant-pant-blow, used as contractions get stronger, when the slow deep breathing does not help anymore:

- As the contraction begins, take one slow deep breath in and out.
- Take two shallow breaths in:
 - ☐ through the mouth.
 - ☐ just enough to raise the chest.
- Next, blow out.
- Repeat this breathing until the contraction is over.
 - ☐ go faster as needed for a hard contraction.
- End each contraction with a deep breath, and relax.

Breathing when pushing, as follows:

- When she feels a contraction, encourage her to breathe deeply and push:
 - ☐ take two deep breaths. Take them:
 - in through the nose.
 - out through the mouth.
 - ☐ take a third deep breath in, put chin on chest, and PUSH down (toward the lower abdomen, the opening of the vagina and the bed).
 - ☐ yelling or talking while pushing will make the push weaker.

- When she needs another breath, take a *quick* breath between each push:
 - ☐ breathe out.
 - ☐ take a deep breath in.
 - ☐ push again.
 - ☐ repeat until the contraction is over. Most women can give 2-3 good pushes during each contraction.
- Between contractions, have woman rest and take slow deep breaths.

[5] If bag of waters breaks, do the following:

- Check color of the fluid.
- Listen right away to be sure the fetal heart rate is still 120-160.
- Look at opening of vagina to make sure the cord has not come out.
- Have woman stay in bed.
- Write down the time the bag of waters broke.

[6] If serious problems, do the following:

- Try to contact the doctor.
- See chart 4.2.

Chart 4.2

Recognize and Treat Serious Problems in Labor

Exam	Assessment	Plan
FAST PULSE: more than 120	Same as low BP.	Same as low BP.
BLOOD PRESSURE: Low for that woman —or— less than 80 systolic	Often caused by: Lying on her back (less blood returns to heart) —or— Heavy bleeding.	Have woman lie on left side. If not helping, if possible: • Give OXYGEN (p.435). • Start an I.V. (p.427).
High for that woman —or— more than 140/90	Possible preeclampsia (may get seizures, placenta separation).	Report to doctor NOW. Follow same plan as for "Severe Preeclampsia," p.162.

Chart 4.2

Recognize and Treat Serious Problems in Labor *(continued)*

Exam	Assessment	Plan
FETAL HEART RATE: Low , less than 120 Just after bag of waters breaks	Baby pressing on cord. Cord may be coming out before baby.	Same plan as below: "Umbilical Cord Comes Out Before Baby."
Low or high (more than 160) In pushing part of labor	Baby is NOT doing well, not getting enough oxygen. Danger of fetal death.	<i>If baby is NOT seen at opening of vagina:</i> <ul style="list-style-type: none"> • Have her stop pushing. • Recheck fetal heart rate after every contraction. • Treat as if "Low at other times in labor," below. <i>If baby is about to deliver,</i> have woman push hard, even when not having contraction.
Low At other times in labor	Baby is NOT doing well, not getting enough oxygen. Danger of fetal death.	Have woman lie on left side. If not helping, try right side or or knee-chest position (p.156). Give OXYGEN (p.435).
DARK (stained) FLUID WHEN BAG OF WATERS BREAKS	A sign of trouble in the baby (often not enough oxygen).	Recheck fetal heart rate often. Give OXYGEN (p.435). When head is out: <ul style="list-style-type: none"> • Mother should STOP pushing. • Suction mouth & nose well to prevent severe breathing problems later. • Check for cord around neck. Be ready to resuscitate.
UMBILICAL CORD COMES OUT BEFORE BABY	Baby's head will press on cord, so baby will not get oxygen. Baby must be born by surgery (C-Section).	Put woman in knee-chest position (p.156) NOW. Emergency! Arrange for transport to hospital. Recheck fetal heart rate often.
HEAVY VAGINAL BLEEDING Uterus may stay hard. Possible low fetal heart rate. Possible shock (weak, fast pulse; low BP).	Possible serious problem with placenta. Danger of death for woman and baby.	Have someone arrange for transport to hospital. Check pulse, BP, fetal heart rate often. Treat shock: <ul style="list-style-type: none"> • Raise legs. • Give OXYGEN (p.435). • Start an I.V. (p.427).
BABY WILL NOT DELIVER after one hour of hard pushing.	Often contractions get short and weak. Woman may get too tired to push well. Danger of problems for woman and baby.	Try different positions for pushing: squatting, lying on side, sitting up part way. Transport to hospital if baby does not deliver.
LABOR LASTS TOO LONG OR weak contractions	Danger of problems for woman and baby.	Usually nothing can be done in village. Transport to hospital.

4.3. Get Set Up For Delivery

[1] Boil a large pot of water for 20 minutes. Then cool. Use this water to wash the patient and your hands just before delivery.

[2] Get your equipment and supplies ready:

- If instruments that are NOT in OB pack need to be sterilized, boil for 10 minutes and set aside to cool.
Examples:
 - ☐ extra rubber bulb syringe.
 - ☐ cord clamps.
 - ☐ scissors.
 - Place a table or chair near foot of bed for your OB pack and equipment.
 - Wash your hands.
 - Put on sterile gloves and use sterile technique to do the following:
 - ☐ lay out your equipment, so that it is ready to use.
 - ☐ cover with sterile drape from OB pack, so it all will stay clean while you are waiting.
 - Get a blanket roll ready to put under the woman's hips just before delivery.
- [3]** Get ready to care for the baby:
- ☐ set up box or bed with warm blanket.
 - ☐ if you are away from the clinic, send someone to get the baby scale.
 - ☐ review care of newborn after delivery (p.183) with helper.

4.4. When Delivery Is Near

[1] Watch for these signs that the woman is about to deliver:

- Contractions come every 2-4 minutes.
- Contractions get stronger and last 1 minute or longer.
- Woman wants to push or have a bowel movement (do not let her go to a bathroom or outhouse).
- In genital area you see:
 - ☐ bulge below vagina (perineum area), or
 - ☐ parts of the baby.

[2] NOW go to "Doing a Delivery," which follows.

DOING A DELIVERY

If you have time, first go to "Labor" (p.165) to get set up for delivery with your "baby box."

Begin here if woman is ready to deliver NOW (wants to push).

GENERAL APPROACH

If there is time, follow the steps in this section. If NOT time, go to step "3. Deliver Head Gently."

Let nature take its course:

- Be patient. Take your time.
- Do NOT try to pull baby out or hurry the delivery, unless your referral doctor or this manual tells you to.

Recheck fetal heart rate every 5-15 minutes.

If something is abnormal, plan to:

- Report it to your referral doctor.
- Observe baby and mother more closely after delivery.
- Be ready to do CPR, especially if baby is small (premature).

NORMAL PRESENTATION: HEAD FIRST

Summary DOING A DELIVERY NORMAL PRESENTATION: HEAD FIRST

1. Position, Wash, and Drape Woman.
2. Have Woman Breathe and Push.
3. Deliver the Head Gently.
4. Suction Baby's Mouth and Nose.
5. Check Neck for Cord.

6. Deliver the Shoulders.
7. Deliver Baby and Suction Again.
8. Clamp and Cut the Cord.
9. Dry Baby; Keep Warm and Breathing.
10. Care for Newborn as on p.183.
11. Deliver the Placenta.
12. Prevent & Control Bleeding:
 - Massage uterus.
 - Give medicine.
 - Check for bleeding.
13. Check Cord and Placenta.
14. Care For Mother as on p.176.

1. Position, Wash, and Drape Woman

1.1 Tell woman NOT to push until you tell her to.

1.2 Have her urinate, if possible.

1.3 Position the woman:

- Get her as comfortable as possible, sitting up part way with pillows behind her.
- Allow room for baby to deliver:
 - ☐ put a blanket roll under her hips.
 - ☐ in a very soft bed, it may be easier for baby to deliver with woman lying on her side. In this case, you will need a helper to hold up her upper leg while she is pushing.

1.4 Wash carefully:

- Upper legs.
- Genital area: skin on each side of birth canal, from front to anus.
- Wash anus area *last*.
- Wash your hands.

1.5 Get yourself and helper ready.

- Check to be sure all of your equipment is within easy reach.
- Put on a clean apron.
- Wash your hands and arms up to the elbows with soap and water.
 - ☐ with a brush.
 - ☐ for 5 minutes, if possible.

- Dry your hands on sterile towel.
- Put on sterile gown and gloves.
- Tell your helper to wash up.

1.6 Drape the woman. Put sterile drapes:

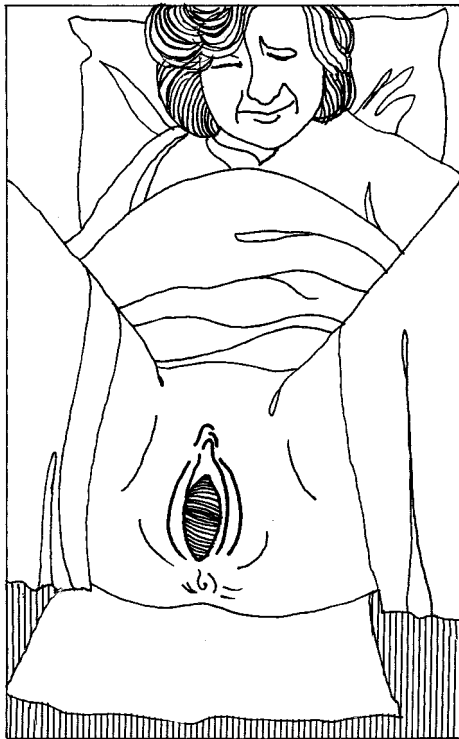
- Under buttocks.
- Over legs.
- Over abdomen.

2. Have Woman Breathe & Push

2.1 When she feels a contraction, encourage her to:

- Take two deep breaths.
- Take a third deep breath in, put chin on chest, and PUSH.
- Take a quick breath between each push.

2.2 Watch for genital area to bulge as baby's head appears.



2.3 Between contractions:

- Recheck fetal heart rate every 5-15 minutes.
- Help woman to rest and take slow deep breaths.
- Reassure her. Tell her what is happening and what is to come.
- Tell her that if she feels a stinging of the skin below her vagina, she should stop pushing for a bit, to help prevent a tear in the birth canal.
- Tell her that when the head is almost out, to prevent problems, you will say, "Do NOT push. Instead, pant and blow":
 - ☐ she will want to push, but it is important NOT to, when you tell her.

- ☐ at that time, she should take short panting breaths in and blow out. Practice this with her.
- ☐ tell her she can do it. It will only be for a little while, while you control delivery of head and suction baby.

3. Deliver the Head Gently

As head starts to deliver, work to prevent baby from coming out quickly and tearing birth canal:

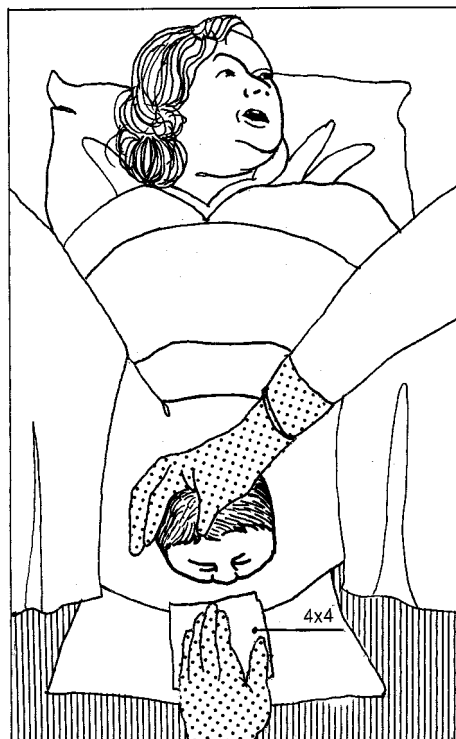
3.1 With one hand, apply gentle pressure against head.

3.2 With other hand:

- Cover anus with 4x4 gauze.
- Support area below vagina (perineum).

3.3 Slowly let the head ease out, between contractions.

- As widest part of the head comes out, tell woman "Do NOT push. Instead, pant and blow."
- Keep the head delivering slowly. If needed, tell her to push a little bit.



Support the head and perineum.

3.4 When the head is out, remind woman, "Do NOT push. Instead, pant and blow."

4. Suction Baby's Mouth and Nose

Suction with a bulb syringe:

4.1 Squeeze air out of bulb before inserting.

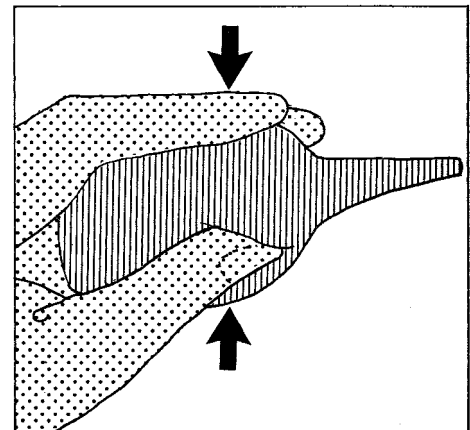
4.2 Gently insert tip deep into baby's mouth.

4.3 To suction, release pressure.

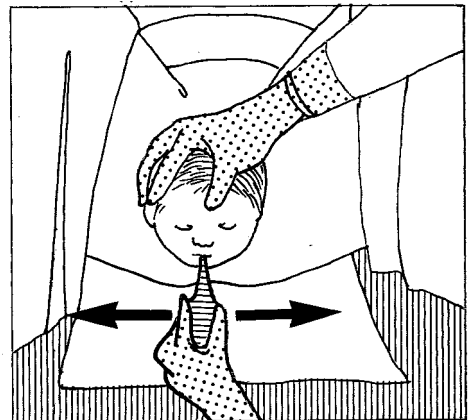
4.4 Remove bulb syringe, and squeeze out mucus.

4.5 Suction nostrils: Gently put tip deep into each nostril, and suction.

4.6 Repeat suction until clear of mucus.



Squeeze bulb syringe.



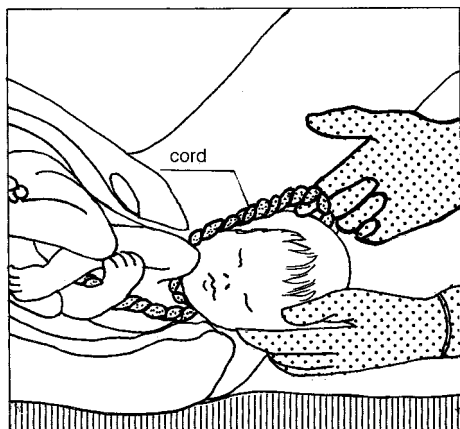
Suction mouth and nose well.

5. Check Neck for Cord

5.1 Check carefully for umbilical cord, in skin folds of neck.

5.2 If cord is around neck, do the following:

- Try to slip cord over the head:
 - ☐ do this firmly but gently.
 - ☐ if more than one loop, slip one loop over at a time.



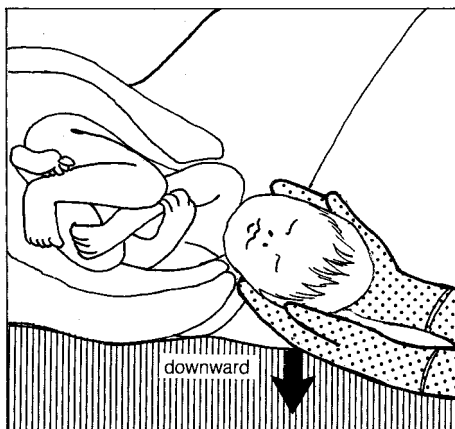
Slip loose cord over head.

- If cord is too tight to slip over head, loosen cord gently, and deliver baby as usual. This is safer than clamping the cord in two places and cutting in between.

6. Deliver the Shoulders

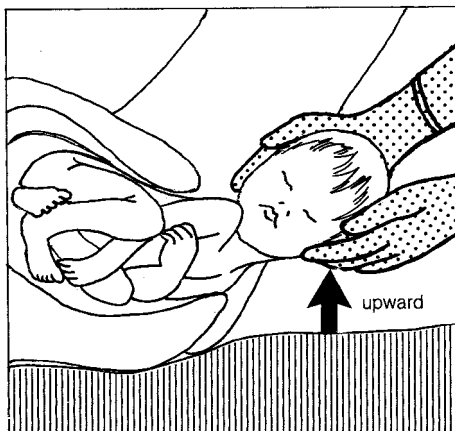
Baby's head will turn by itself as shoulders get ready to come out. If needed, help to deliver shoulders:

- 6.1** Ask mother to push a little bit, and more if needed.
- 6.2** Put both hands over baby's ears. Do NOT pull on the head. This may harm the baby.
- 6.3** Gently guide head downward to deliver top shoulder.



Deliver top shoulder.

6.4 Next, gently guide head upward to deliver lower shoulder.



Deliver lower shoulder.

If Shoulders Will NOT Deliver

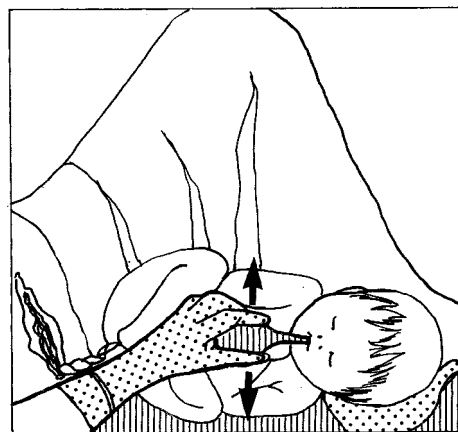
Baby needs to deliver soon to get enough blood to the head. Do the following as needed:

- [1]** Encourage woman to push HARD.
- [2]** Position the woman. This can often get a shoulder loose with her next push. Try one or both of the following:
 - Have woman lie on her back and pull her knees up toward her chest.
 - Have woman get on her hands and knees.
- [3]** If shoulder will still NOT deliver,
 - Feel baby's top shoulder with your finger.
 - Push top shoulder toward baby's face. This moves baby a little bit in order to release top shoulder.

7. Deliver Baby & Suction Again

Baby will be slippery and will often come out quickly. Be careful.

- 7.1** Let baby deliver onto the bed.
- 7.2** Lay baby on side, to help fluids drain from mouth and nose.
- 7.3** Suction mouth and nose well.



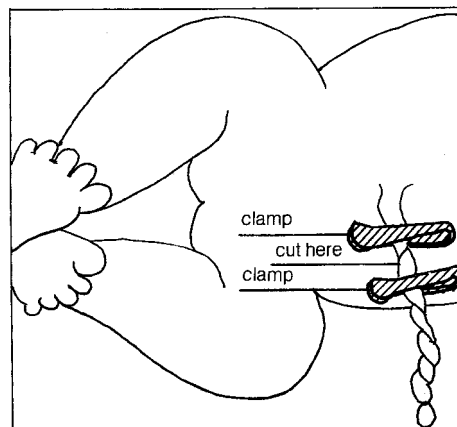
Suction again.

7.4 Note time of baby's birth. Have your helper write it down.

8. Clamp and Cut the Cord

Clamp the cord within one minute after birth.

- 8.1** Put the first clamp about one inch away from baby.
- 8.2** Put the second clamp one inch away from the first.
- 8.3** Cut the cord halfway between the clamps with sterile scissors.



9. Dry Baby; Keep Warm and Breathing

9.1 Do NOT let baby get cold. To keep baby warm:

- Immediately dry baby with a large towel.
- Dry baby all over, including head.
- Wrap baby in a warm, dry towel or blanket, with head covered.

If NOT Breathing

[1] Immediately rub baby's back or feet with towel to stimulate.

[2] *If baby does not start to breathe* within 30 seconds:

- Begin rescue breathing, and continue as needed.
- Check pulse on cord or upper arm.
- *If you can NOT feel pulse*, listen with stethoscope.
- *If heart rate less than 50/minute*, add chest compressions (CPR, CPR, p.3).

[3] Keep baby warm and dry.

[4] Have helper finish the delivery and care for mother.

10. Care for Newborn as on p.183.

10.1 If baby seems normal:

- Have your helper go to p.183 and care for the newborn.
- You should finish the delivery and care for mother.

10.2 *If there are problems* with baby:

- Have your helper finish the delivery and care for mother.
- You should care for the newborn. Now go to p.183.

11. Deliver the Placenta

The placenta usually comes out 5-15 minutes after the baby. While you are waiting:

- Do not massage uterus or give medicine until placenta has delivered.
- DO NOT PULL on cord. Pulling may pull uterus inside out, tear cord or placenta, and cause bleeding.

11.1 First, see a sign that placenta is separated from uterus:

- A gush of dark blood from vagina
- Cord comes out a little bit.
- Uterus rises up and forms a firm ball shape in lower abdomen.

11.2 Ask mother to push again, especially with a contraction.

11.3 Deliver the placenta gently:

- Allow placenta to deliver by itself.
 - it may help to *gently* guide cord in upward direction.
- Catch the placenta in a basin.

If Placenta Will NOT Deliver

If bleeding a lot, do the following:

[1] Have helper contact your referral doctor and arrange for transport to hospital. You continue to follow this plan.

[2] Squeeze the uterus between your hands for 5 minutes to control bleeding.

- Use one of the same methods shown in drawings under step 12.3 ("If bleeding continues").

- Repeat as needed.

[3] *If bleeding continues*, check to see if bleeding is from tear or cut in birth canal.

- Use sterile 4x4's to blot and examine outer vagina.

- *If you find a tear*, use direct pressure to stop bleeding.

[4] Recheck P and BP at least every 15 minutes.

- If shock (weak, fast pulse; low BP), treat as on p.7.

[5] Start an I.V. (p.427).

If NOT bleeding much, contact your referral doctor if placenta has not delivered after one hour.

If you can NOT reach a doctor, follow this plan until you can.

[1] It may help to put baby to breast or to gently squeeze nipples (helps uterus to contract).

[2] Have mother get in a squatting position and push.

[3] Watch for signs that placenta is separated from uterus, as listed in step 11.1.

[4] *If placenta will still not deliver* and you can NOT reach a doctor, arrange for transport to hospital. While you are waiting,

- Take woman's blood pressure and pulse every 15-30 minutes.
- Reassure the mother.

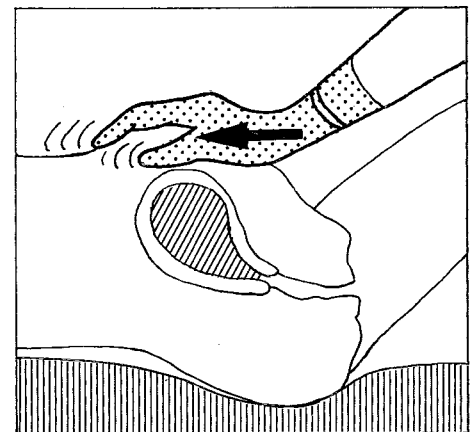
12. Prevent & Control Bleeding

Follow this step only if placenta has delivered.

- Do NOT massage the uterus or give METHYLERGONOVINE or ERGONOVINE until placenta has delivered. Doing so may close the cervix and make it impossible to deliver the placenta.

12.1 Gently massage (rub) the uterus area until uterus feels firm, like a ball. This helps to prevent serious bleeding.

- Top of uterus should be at level of umbilicus (belly button) or lower.



Massage the uterus.

12.2 Medicine. After placenta is delivered:

- *If mother's blood pressure is less than 140/90*, give medicine to prevent bleeding from uterus:

Give oral **METHYLERGONOVINE** (Methergine®; 0.2 mg. tablets).

- **Dose: 0.2 mg. (1 tablet) by mouth every 4 hours for a total of 6 doses.**

12.3 Check for bleeding. Look at genital area while massaging uterus.

If Heavy Bleeding

If uterus feels soft follow this plan:

[1] Continue to massage uterus to make it firm.

[2] Put baby to breast or gently squeeze nipples (helps uterus to contract).

[3] Medicine:

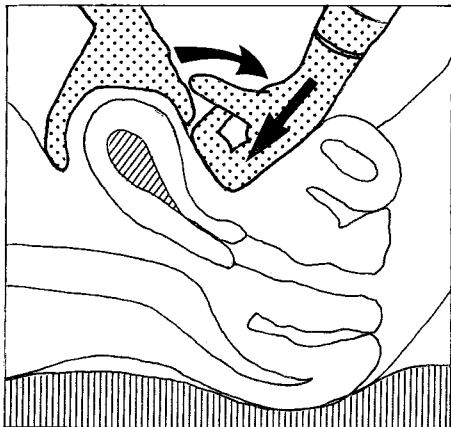
- If mother's blood pressure is less than 140/90:

Give I.M. shot of **ERGONOVINE** (Ergotrate®; 0.2 mg./ml.).

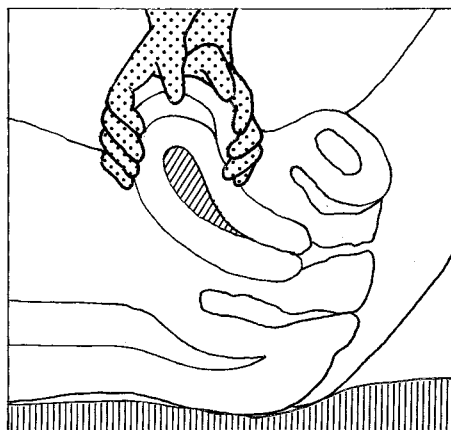
- **Dose: 0.2 mg. (1 ml.).**

[4] If bleeding continues, squeeze uterus between your hands for 5 minutes.

- Use one of the methods shown in the next two drawings.
- Repeat as needed.



Method 1.



Method 2.

[5] If bleeding continues, have someone else contact your referral doctor and arrange for transport to hospital while you follow this plan.

[6] Recheck P and BP at least every 15 minutes.

- If shock (weak, fast pulse; low BP), treat as on p.7.

[7] Start an I.V. (p.427).

If bleeding when uterus feels firm, treat for possible tear in birth canal:

[1] Use sterile 4x4's to blot and examine outer vagina.

[2] If you find a tear, use direct pressure to stop bleeding.

[3] If bleeding continues, have someone else contact your referral doctor and arrange for transport to hospital while you follow this plan.

[4] Recheck P and BP at least every 15 minutes.

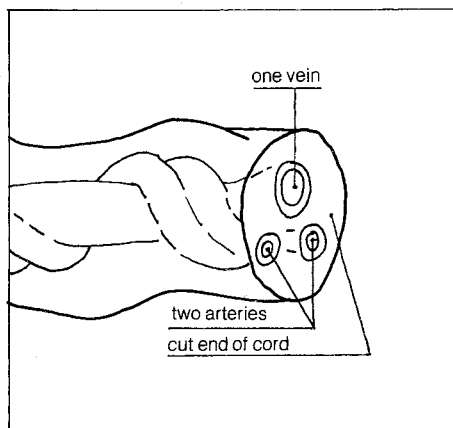
- If shock (weak, fast pulse; low BP), treat as on p.7.

[5] Start an I.V. (p.427).

13. Check Cord and Placenta

13.1 Check cut end of cord for blood vessels.

- Wipe end of cord with 4x4 gauze, to see it well.
- **Normal:** Cord will have three blood vessels:
 - ☐ one vein.
 - ☐ two arteries (smaller and thicker than the vein).
- **Abnormal:** Cord has a different number of vessels. In this case, other birth defects are more likely.

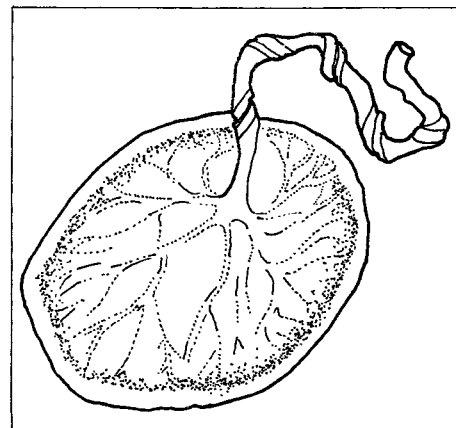


Check cord for three blood vessels.

13.2 Gently wipe or wash blood clots from placenta before examining.

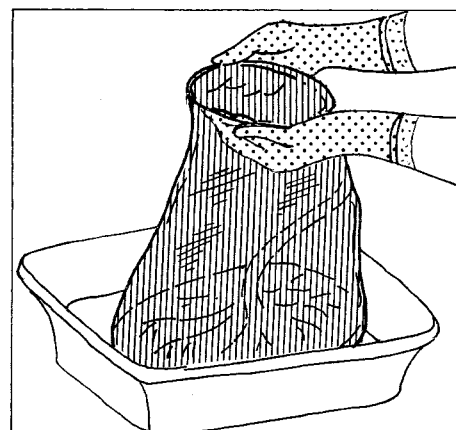
13.3 Check baby's side of placenta.

- **Normal:** All blood vessels should get narrow and end before the edge.



Baby's side of placenta.

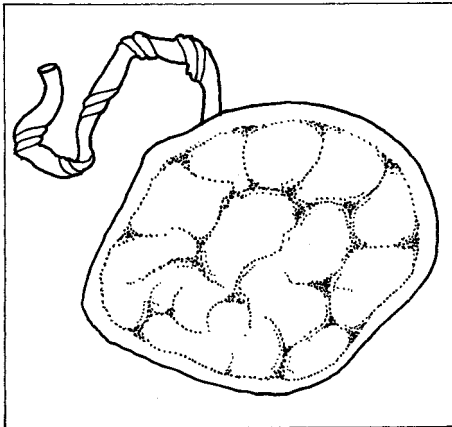
13.4 Check membranes (bag of waters). Are all the membranes there?



Check membranes.

13.5 Check mother's side of placenta.

- The surface will appear very irregular with hills and valleys.
- Bring it together with your hands.
- **Normal:**
 - ☐ fits together with no jagged parts or empty spaces left.
 - ☐ edges slope off smoothly.
- **Abnormal:** Part is missing. If part of the placenta is still in uterus, this can cause bleeding later on.



Mother's side of placenta.

14. Care for Mother as on p. 176

BREECH DELIVERY

Breech = Baby is delivering with feet or bottom coming out first.

Summary BREECH DELIVERY

1. Position Woman With Extra Room Under Buttocks.
2. As Delivery Begins:
 - If needed, help baby to turn to keep back side up.
 - Otherwise, keep hands off baby until born to the waist.
3. When Born To the Waist:
 - Gently pull down loop of cord.
 - Support baby's hips as body comes out.
4. Deliver Arms and Shoulders.
5. Deliver the Head, and Suction.
6. Follow Other Steps For Normal Delivery (p.171).

General Approach

Explain that your helper will need to press down on uterus for the last part of the delivery (steps 4 and 5).

Interfere as little as possible.

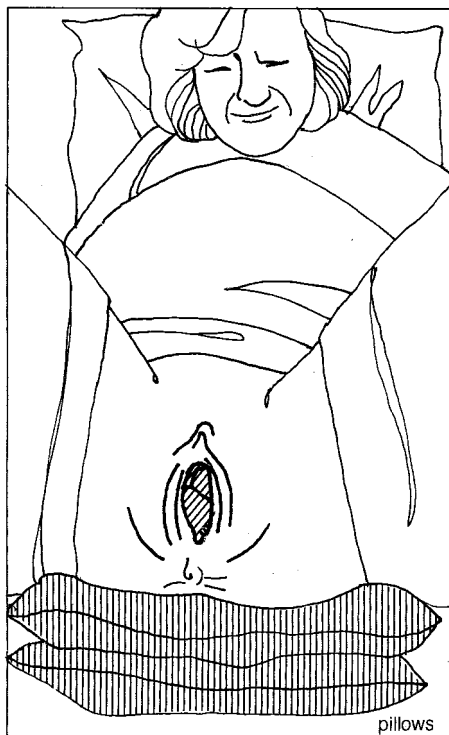
- Do NOT pull on baby. Delivery happens by mother's pushing and by helper's pressing down, NOT by your pulling.
- Do NOT reach inside to bring out legs.

Keep baby's back up.

1. Position Woman With Extra Room Under Buttocks

1.1 Make extra room under her buttocks to give room for breech baby to deliver:

- Put several pillows under woman's buttocks, as in the next drawing.
- or—
- Have her lie with her buttocks on edge of bed. Support her feet or legs on chairs or have helpers hold them.

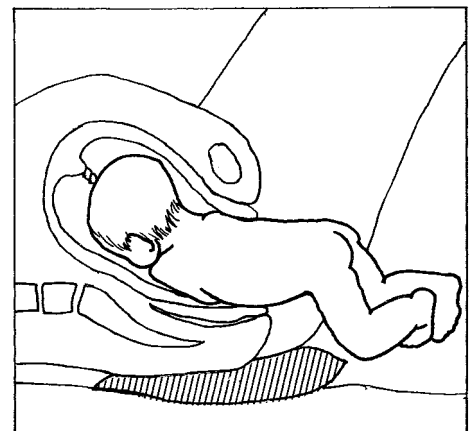


1.2 Wash and drape woman and have her breathe and push as for a normal delivery (p.169-170).

2. As Delivery Begins

2.1 As baby's buttocks start to come out, back should be up.

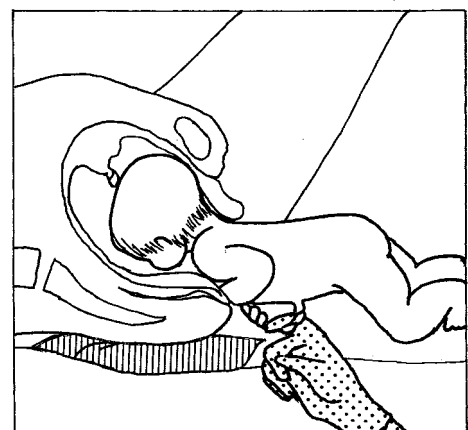
- If needed, help baby to turn.
- Keep baby turned so that back side is up.
- Otherwise, keep hands off baby until born to the waist.



3. When Born to the Waist

3.1 Gently pull down a loop of cord.

- It should stay loose as baby comes out.

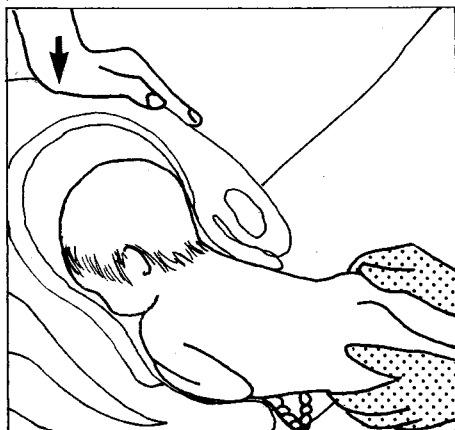


3.2 Support baby's hips as body comes out.

- Do NOT pull on baby.

4. Deliver Arms and Shoulders

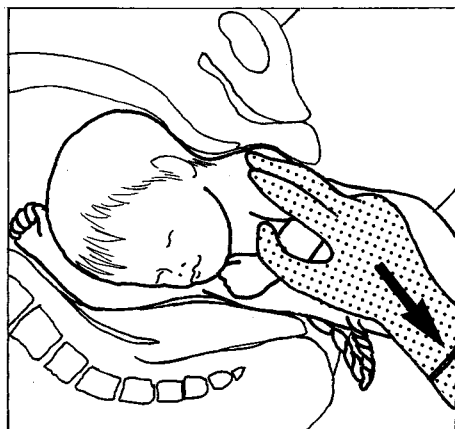
4.1 If needed, have your helper press down on woman's uterus.



If Arms Are Stuck

Reach in and hook out each arm. To prevent upper arm from breaking while you do this:

- Do NOT pull on just one part of arm.
- Hold the *whole* upper arm.
- Bring arm down across chest.



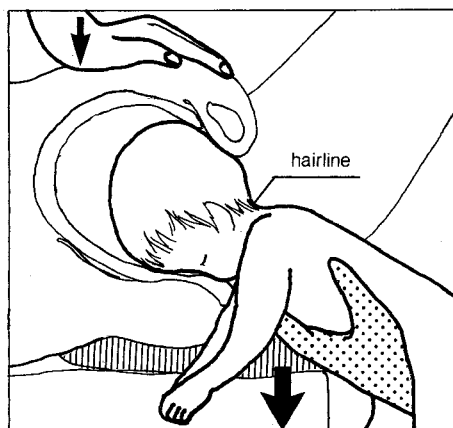
Bring arm down across chest.

5. Deliver the Head, and Suction

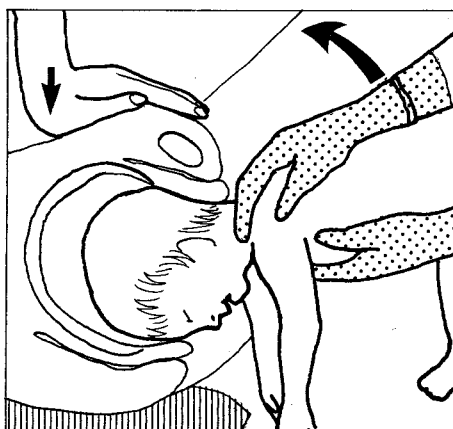
During this step, your helper should press down firmly on uterus, above pubic bone:

- To help deliver head.
- To keep chin toward chest (prevents spine injury).

5.1 Lower the body until you see the hairline.



5.2 Next, slowly raise the body to deliver face and head.



5.3 When head is delivered, suction mouth and nose well.

If Head Is Stuck

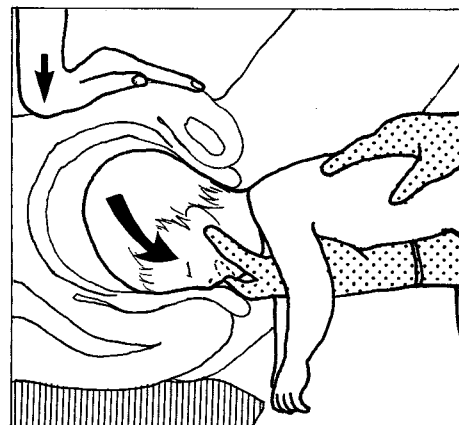
[1] Put your middle finger in baby's mouth with other fingers on outside of his cheek bones.

[2] Put pressure on his cheek bones and pull his chin toward his chest.

[3] Raise his body.

[4] Have mother push hard.

- At same time helper should press down strongly on uterus, above pubic bone.
- Do NOT pull on baby's body.



Pull chin toward chest.

If Head Is Still Stuck After 3 Minutes

[1] Make an air passage to baby's nose by pressing the vaginal walls away.

[2] Wrap baby's body in blankets to keep him warm.



[3] There may not be much that you can do differently:

- Repeat the steps for "If the Head is Stuck."
- Try again to contact your referral doctor for advice.

6. Follow Other Steps For Normal Delivery (p.171)

Breech: General Information

The baby born breech may have problems:

- There is a higher chance of birth defects.

- A long time getting the head out (not enough oxygen to baby's brain) may mean:
 - ☐ baby needs CPR.
 - ☐ baby has brain damage.
- Difficult delivery may injure baby's body.

OTHER UNUSUAL PRESENTATIONS

These are presentations other than head or breech. Examples: face, hand, shoulder or other body part is delivering first.

Do the following:

[1] Try again to contact your referral doctor for advice.

If you can NOT reach a doctor, follow this plan until you can.

[2] Arrange for transport to hospital.

[3] While you are waiting to transport, follow guidelines for "Doing a Delivery," p.169.

- There may not be much that you can do.
- Often baby must be born by surgery (C-Section).

TWINS

[1] Deliver the first baby. Follow "Doing a Delivery," p.169.

[2] After the first baby is born:

- Care for the first baby. Follow "Care of Newborn," p.183 until it is time for second baby to deliver.
- Have your helper observe and care for mother.
 - ☐ recheck second baby's fetal heart rate every 5 minutes, if possible.
 - ☐ do NOT give METHYLERGONOVINE OR ERGONOVINE until both babies and placenta(s) are delivered.
- The second baby will usually deliver within a half hour.

[3] Deliver the second baby.

[4] When you care for mother after delivery (p.176), keep in mind that this woman is at high risk to bleed:

- Watch her closely.
- Have her massage the uterus gently for *several hours* if needed to keep it firm.

CARE OF MOTHER AFTER DELIVERY

JUST AFTER DELIVERY

General Approach

As you care for mother, also check to see that baby is OK:

- Be sure your helper is caring for the newborn (p.183).
- Observe baby.
- When possible, assist your helper to care for newborn.

If you find problems with mother:

- *If high BP*, consider that the assessment may be "preeclampsia" or "severe preeclampsia," p.162.
- *If seizures*:
 - ☐ give emergency care as for any seizure (p.270).
 - ☐ consider that the assessment may be "eclampsia" (p.163).
- *If other problems*:
 - ☐ see post partum assessments on p.179.

If all is normal, plan to report after delivery is finished and mother and baby are OK.

- Decide with doctor if transport is needed and when you should report next.

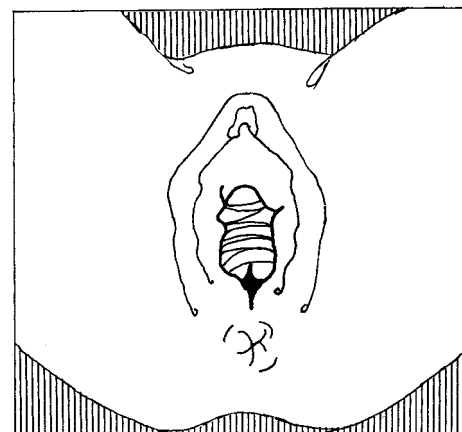
1. During the First Hour

1.1 Check vaginal area for tears or cuts.

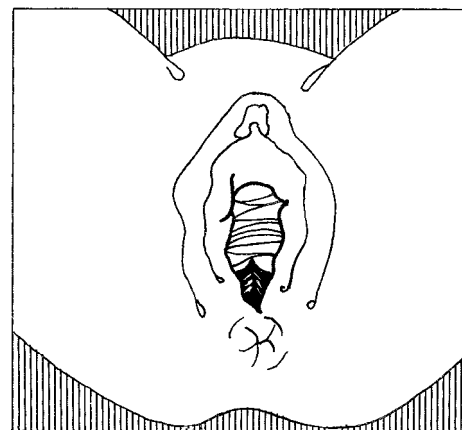
- Have good light. Use a flashlight, if needed.
- Use sterile 4x4's to blot and examine labia area and outer vagina.
- Especially look just below opening of vagina.

1.2 *If you find a tear*, do the following:

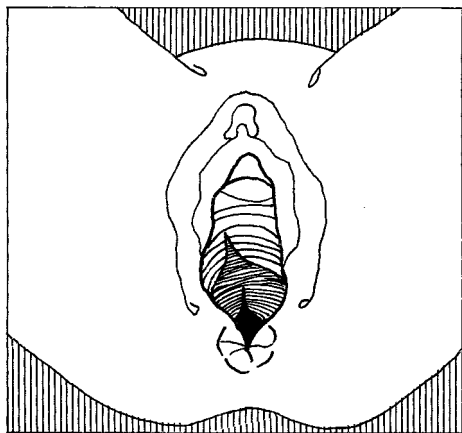
- If bleeding:
 - ☐ use direct pressure to stop bleeding.
 - ☐ *if bleeding continues*, treat the same as for "bleeding when uterus feels firm," p.173.
- If NOT bleeding, check to see how deep the tear is:
 - ☐ skin only.
 - ☐ skin plus muscle underneath.
 - ☐ deepest: tear into anus muscle or into rectum.



Tear of skin only.



Tear of skin and muscle.



Tear into anus muscle.

1.3 General care:

- Wash the genital area, and put a sanitary napkin (pad, Kotex®) and belt in place.
- Place clean sheets on bed, if needed.
- Help mother to stay warm. Give her a blanket.

1.4 Every 5 minutes, more often if needed, massage uterus to keep it feeling firm.

- Teach mother to do this.
- Some mothers are more likely to bleed from a soft uterus. Watch carefully if woman has had:
 - ☐ many deliveries in past.
 - ☐ a very short labor.
 - ☐ a very long labor.
 - ☐ a large baby.

1.5 Every 15 minutes, check:

- Vital signs: P, BP.
- Pad, for bleeding:
 - ☐ amount of bleeding.
 - ☐ color of bleeding.
 - ☐ clots.

2. One Hour After Delivery

2.1 Every ½ hour for 2 more hours, continue to check:

- Vital signs: P, BP.
- Uterus to see that it is still feeling firm.
- Pad, for bleeding.

2.2 Within those next two hours, teach mother how to care for herself during the next day:

- She may get out of bed as soon as she feels able.
 - ☐ the first time she gets up, she should have help.

- She may eat as soon as she is hungry.
- Encourage her to urinate soon after delivery.
- After going to the toilet, she should:
 - ☐ wipe from the vagina to the rectum (front to back) to avoid infection.
 - ☐ wash the genital area. A plastic squeeze bottle or a bulb syringe filled with warm water is gentle and works well.
- She should contact you if she has not urinated by 8-12 hours after delivery and is uncomfortable because she has to urinate.
- Encourage her to rest for 24 hours.
- Give patient education that applies, beginning on p.178, "Plan: Normal Post Partum Patient."
 - ☐ only give patient education that mother needs to know during the next 24 hours, such as advice for "painful vagina/anus area."

3. Assessment and Plan

3.1 Three hours after delivery, make an assessment and plan, the same as for post partum recheck visits.

- If assessment is "normal post partum patient," your plan should include the following:
 - ☐ plan for someone to observe mother at home. Every 4 hours, for the first 24 hours, they should:
 - feel uterus to see that it is still feeling firm.
 - check pad and vaginal area for bleeding.
 - ☐ make an appointment to recheck mother the next day. She should send for you sooner if she has problems.
 - ☐ patient education: remind mother only of information she needs to know during the next 24 hours.

POST PARTUM RECHECK VISITS

General Approach

Get patient education handouts from your referral hospital or other sources.

When a new mother returns from the hospital:

- Visit her at home.
- Read her hospital discharge summary if she has a copy.
- If no discharge summary, ask about her labor and delivery. Was it normal or were there problems?
- Schedule an appointment for post partum recheck (and for well child care, p.188).
- Call your referral doctor if there were problems or if you need more information.

Recheck mother at these times:

- 1, 2, and 3 days after delivery.
- 1 and 6 weeks after delivery.
- More often if she is having problems.

1. History

1.1 Ask patient how she is feeling. If she is having problems, find out about them. Especially note the following:

- Sick, flu-like feeling?
- Fever and chills?
- Change in bleeding? If so:
 - ☐ when did it start?
 - ☐ how much is she bleeding?
 - ☐ what does the blood look like?
 - color (fresh red or old dark)?
 - are there clots?
- Pain in the lower abdomen?
- Foul smelling discharge from vagina?
- Painful, red area of:
 - ☐ breast?
 - ☐ vagina?

1.2 Ask if she is urinating and having bowel movements.

1.3 If breast-feeding, ask how she is doing.

- For problems or concerns, see breast-feeding information at the end of this section.

1.4 How are things at home?

- How much rest is she getting?
- What has she been eating?
- Is she under a lot of stress?

2. Exam

2.1 General appearance.

2.2 Vital Signs: T, P, R, BP.

2.3 Chest:

- Breath sounds.

2.4 Breasts:

- Appearance, including nipples.
- Feel for tenderness. If tender area:
 - ☐ examine it completely.
 - ☐ is it inflamed (tender, warm, red, swollen)?

2.5 Abdomen:

- Feel the uterus. Is it firm and getting smaller? Normal:
 - ☐ starting at umbilicus, uterus should get smaller by about 2 cm. (one finger width) per day.
 - ☐ it should NOT be getting more tender to touch.

2.6 Legs:

- Squeeze calf muscles.
- If calf pain or tenderness, check for deep leg vein problems:
 - ☐ with leg straight, quickly push ball of foot (widest part) toward the knee, bending the ankle (p.397). Does this cause pain in the calf?

2.7 Genitals:

- Labia and outer vagina. Examine closely for:
 - ☐ infected tears.
 - ☐ vaginal flow: amount, color and smell.

2.8 Lab test:

- Hemoglobin:
 - ☐ 1 day after delivery.
 - ☐ 6 weeks after delivery, sooner if bleeding more than normal.

3. Assessment

3.1 Your assessment should be:

Post partum care.

3.2 Make a more specific assessment. Use chart 3.2.

3.3 Your assessment should include one of the following:

- **Normal post partum patient** (Plan 4.1).
- **Vaginal bleeding** (Plan 4.2).
- **Cut or tear in birth canal without bleeding** (Plan 4.3).
- **Infection of uterus** (Plan 4.4).
- **Infection of breast** (Plan 4.5).
- **Breast abscess** (Plan 4.6).
- **Other post partum problem** (Plan 4.7).

4. Plan

4.1 Plan: Normal Post Partum Patient

[1] Report to your referral doctor unless he has told you to care for this patient without contacting him.

- *Always report if history or exam is abnormal, including:*
 - ☐ bleeding more than normal.
 - ☐ foul smelling discharge from vagina.
- While you are waiting to report, follow this plan.

[2] General patient education

should include the following:

Vaginal flow. Patient should know the following:

- Normal flow:
 - ☐ bleeding like a heavy period for up to 7-10 days after delivery.
 - ☐ red or brown spotting, maybe with mucus, for 3-4 weeks after that.
 - ☐ should NOT smell foul.
- Bleeding may increase when the woman first becomes more active. In this case, she should:
 - ☐ lie down and rest for 2 hours.
 - ☐ contact you if heavy bleeding continues (many clots or soaking more than one pad/hr.).

Activity after the first 24 hours is good. She should:

- Walk. This is good exercise and will help to prevent blood clot problems in the legs.
- Avoid getting too tired.
 - ☐ have someone help her with the housework for the next few days.
 - ☐ if breast-feeding, extra rest is especially important.
- Avoid lifting and straining for 2 weeks.

Diet guidelines:

- She should eat a well-balanced diet with foods from the four food groups every day (as shown on p.444).
- Until the genital area is healed, she should eat a high fiber diet (p.446) to keep bowel movement soft and prevent constipation.

- If she is breast-feeding, she also needs extra liquids (8 glasses a day).

Genital cleaning is important until the area is well healed.

- After going to the toilet, she should continue to wash the genital area gently with warm water (with plastic squeeze bottle or a bulb syringe).

Intercourse needs special care, as follows:

- Woman should avoid intercourse until 3 to 4 weeks after delivery. Explain why:
 - ☐ tissues have time to heal.
 - ☐ cervix has time to close completely. This helps to prevent an infection of the uterus.
 - ☐ intercourse will be more comfortable after this healing.
- About 3-4 weeks after delivery, to avoid pain with intercourse, she should prepare the vagina:
 - ☐ use lubricating jelly (KY®, Lubafax®).
 - ☐ gently stretch vagina with fingers.
- When having intercourse, to avoid pain, it may help to:
 - ☐ go slowly at first. Spend a lot of time touching. If woman is nervous, the muscles in her vagina may be tight and cause more pain.
 - ☐ use lubricating jelly (KY®, Lubafax®).
 - ☐ use certain positions (woman on top or side by side), so she can control the movements.

[3] Minor problems/discomforts

can be treated. Use the guidelines that follow. Contact your referral doctor if the woman is NOT getting better.

Cramps of the uterus ("after pains") happen as the uterus contracts.

- If needed, give ACETAMINOPHEN (Tylenol®; p.416).

Hemorrhoids. Treat the same as for hemorrhoids in any patient (p.79).

Painful vagina/anus area, from cut, tear, difficult delivery:

- Apply ice packs for 20 minutes, 3-4 times a day, for the first 24 hours.
- Soak in warm water for 20 minutes, 4 times a day until better.
- Woman should return to clinic if signs of infection:
 - ☐ getting more tender, warm, swollen.
 - ☐ having foul discharge.

Difficulty urinating can usually be prevented:

- Encourage the patient to drink lots of liquid and to walk around.
- She should also try to urinate while:
 - ☐ running water from a faucet.
 - ☐ sitting in a tub of warm water.
 - ☐ pouring warm water over her urethra area.
 - ☐ pressing gently above her pubic bone.

- If she has NOT urinated by 8-12 hours after delivery, she is uncomfortable because she has to urinate, and you can NOT reach a doctor, do the following:
 - ☐ let out urine by inserting a temporary catheter into the bladder (p.128).
 - ☐ recheck her often.

Chart 3.2

Post Partum: Assessments and Typical Findings

Assessment	History	Exam
NORMAL POST PARTUM PATIENT (Plan 4.1)	Normal Flow: <ul style="list-style-type: none"> • Bleeding like a heavy period for up to 7-10 days after delivery. • Red or brown spotting, maybe with mucus, for 3-4 weeks after that. • Should NOT smell foul. Woman may have some minor discomforts (in step 4.1).	Normal.
VAGINAL BLEEDING [may be from open blood vessels in uterus, cut or tear in birth canal, or piece of placenta inside uterus] (Plan 4.2)	Bleeding: <ul style="list-style-type: none"> • More than a heavy period just after delivery. • Or, like a heavy period for <i>longer</i> than 7-10 days after delivery. 	Just after delivery, uterus may feel soft and large.
INFECTION OF UTERUS (Plan 4.4)	May happen 24 hours or more after delivery. Patient feels sick. Fever.	Fever over 100.4. Pulse may be faster than normal. Tender uterus. If cannot feel uterus, then tender lower abdomen. Discharge from vagina: <ul style="list-style-type: none"> • Increasing in amount. • Foul smelling.
INFECTION OF BREAST [mastitis] (Plan 4.5)	Usually happens five or more days after delivery. May feel sick, have fever. Painful spot on breast.	May have fever. Pulse may be faster than normal. Warm, red, tender spot on breast.
BREAST ABSCESS (Plan 4.6)	Same history as for infection of breast.	May look sick, have fever, faster pulse than normal. <i>Breast:</i> <ul style="list-style-type: none"> • Inflamed lump (very tender, warm, red, swollen). • Has edges that are firm, from swelling. • Later, in center, becomes soft, white or yellow (from pus inside); may drain pus. • Enlarged, tender lymph nodes in armpit.

Constipation. Treat the same as for constipation in any patient (p.79). In addition, if patient has not had a bowel movement by 2-3 days after delivery:

Give **MILK OF MAGNESIA.**

- **Dose: 30 ml.** (2 Tablespoons).
- Repeat in one day, at bedtime, if needed.

Night sweats, hot flashes, urinating often are common complaints as hormones change to the way they were before pregnancy and as the body gets rid of extra fluid held in pregnancy.

- Explain that this is all normal and may happen for 1-4 weeks.
- Encourage the woman to wash often to help herself feel refreshed.

Engorged breasts are breasts that are firm, swollen with milk. They are NOT tender and red in one spot like a breast infection.

- If *breast-feeding*, go to the breast-feeding information at the end of this section.
- If NOT breast-feeding she can do the following things for the discomfort:
 - ☐ wear a bra with good support.
 - ☐ bind breasts with a towel around the chest.
 - ☐ apply ice packs for 20 minutes, 3-4 times a day.
 - ☐ lie in a tub of warm water.
 - ☐ if needed for pain, take ACETAMINOPHEN (Tylenol®; p.416).
- If her breasts become red or painful, examine and consider that the assessment may be "infection of breast" (chart 3.2).

Post-partum blues or feelings of depression may come from hormone changes.

- Often a woman feels:
 - ☐ an "empty" feeling.
 - ☐ a loss of being "special."
 - ☐ a loss of freedom.
- Usually this problem is mild and temporary.

- Help the woman to talk about problems and feelings.
 - ☐ follow general guidelines for talking and counseling (p.219).
- Reassure her that it is normal to have these feelings.
- Give her advice on parenting, or have her talk with friends who have babies.
- Encourage the woman to:
 - ☐ rest. Get help at home.
 - ☐ do things she enjoys.
 - ☐ spend some time alone with her partner.
- Recheck her more often than other normal patients.
- If you think the woman is very depressed or if she is not getting better in a week or so, now go to p.208, "Depression." Follow those steps until you can reach a doctor.

[4] Post-partum exercises will help the mother to get back in shape. Every day, she should increase the number of times she does each exercise, until she is back to normal:

Exercises for abdominal muscles are the main ones she will do. Lying on her back without a pillow, she should do the following:

- Head lifts:
 - ☐ gradually raise the head until chin touches the chest.
 - ☐ hold and count slowly to 5.
 - ☐ repeat this five times.
- Leg lifts:
 - ☐ bend one leg at the knee.
 - ☐ slowly raise the other leg (keep it straight) about 6 inches.
 - ☐ hold and count slowly to 5.
 - ☐ slowly lower the leg.
 - ☐ do the same thing with the other leg.
 - ☐ repeat this 5 times.
- Sit ups:
 - ☐ bend the knees.
 - ☐ slowly raise the head and shoulders off the floor and reach for her left hip.
 - ☐ hold and count slowly to 5.
 - ☐ repeat this exercise, reaching for the other hip.

Exercises for pelvic muscles are still important, too. She should do Kegel exercises, the same as during pregnancy (p.157).

[5] Medicine. The same medicines started during prenatal care should be continued:

Give **VITAMINS with FOLIC ACID** (prenatal vitamins).

- **Dose: One tablet a day.**
- Woman should take for 1 month after delivery, or for as long as she is breast-feeding.

ALSO:

Give **FERROUS SULFATE** (Iron; 325 mg. tablets)

- **Dose:**
 - ☐ if hemoglobin is 11 or less, one tablet 3 times a day for 4 months.
 - ☐ if hemoglobin is more than 11, one tablet a day for 6 weeks after delivery.

[6] Other plan should include the following:

- Other patient education:
 - ☐ breast-feeding (follows, in this section).
 - ☐ well child care (p.188).
 - ☐ family planning (p.145).
- Treat problems that you have found. Example: If painful, swollen leg, consider that the assessment may be "blood clot in leg vein" (p.36).

[7] Recheck as follows:

- If all is normal, recheck at these times:
 - ☐ 1, 2, and 3 days after delivery.
 - ☐ 1 and 6 weeks after delivery.
- Tell patient she should return to clinic sooner if she is having problems, such as the following danger signs:
 - ☐ bleeding more than normal.
 - ☐ sick, flu-like feeling.
 - ☐ fever more than 100.4°F.
 - ☐ pain in the lower abdomen.
 - ☐ foul smelling discharge from vagina.

- ☐ painful, red area of breast or vagina.
- ☐ painful, swollen leg.

4.2 Plan: Vaginal Bleeding

[1] Give emergency care if needed:

- For bleeding soon after delivery, treat as for bleeding with delivery:
 - ☐ massage uterus to make it firm.
 - ☐ now go to p.173, "If Heavy Bleeding."
- For other patients (uterus is firm and no tears/cuts are seen):
 - ☐ have patient rest, lying down.
 - ☐ check vital signs: P, BP.
 - ☐ if shock (weak, fast pulse; low BP), now go to p.7.

[2] Report NOW to your referral doctor.

If you can NOT reach a doctor, follow this plan until you can.

[3] If bleeding is light, do the following:

- Reassure the woman.
- Other plan: Go to plan 4.1 ("Normal Post Partum Patient"). Follow parts of that plan which apply.
- Recheck at least once a day.

[4] If bleeding is heavy, do the following:

- Have someone arrange for transport to hospital.
- While you are waiting to transport:
 - ☐ stay nearby.
 - ☐ start an I.V. (p.427).
 - ☐ recheck vital signs often. If shock (weak, fast pulse; low BP), now go to p.7.

4.3 Plan: Cut or Tear in Birth Canal Without Bleeding

[1] Report to your referral doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.
- If woman has a tear in the muscle below opening of vagina, it will need stitches. Arrange for transport to hospital.

[2] Special care should include the following:

- Patient education: A tear in the skin usually heals OK without stitches.

- If area is getting infected (getting more tender, warm, red, swollen; pus or foul discharge seen) and you can NOT reach a doctor, treat the same as for any infected wound (p.321).

[3] Other plan: Go to plan 4.1 ("Normal Post Partum Patient"). Follow parts of that plan which apply. Pay special attention to information on:

- Genital care.
- Painful vagina/anus area.

4.4 Plan: Infection of Uterus

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor,

- Follow this plan until you can.
- Have someone arrange for transport to hospital as soon as possible. Patient needs antibiotics and care at hospital.

[2] Medicine should include the following:

- Give an antibiotic:

Give **AMPICILLIN** (250 mg. tablets).

- **Dose: 500 mg. (2 tablets) every 6 hours.**

OR,

If allergic to PENICILLIN:

Give **TETRACYCLINE** (250 mg. capsules or tablets).

- **Dose: 500 mg. (2 capsules or tablets) every 6 hours.**

- If needed for pain, give ACETAMINOPHEN (Tylenol®, p.416).

[3] Transport patient to hospital.

While you are waiting to transport, your plan should include the following:

- Patient education:
 - ☐ rest in bed.
 - ☐ drink lots of liquids.
 - ☐ eat a well-balanced diet.

- Go to plan 4.1 ("Normal Post Partum Patient"). Follow parts of that plan which apply.

4.5 Plan: Infection of Breast

[1] Report to your referral doctor.

If you can NOT reach a doctor, follow this plan until you can.

[2] If woman is NOT breast-feeding,

follow this plan:

- Give an antibiotic:

Give **DICLOXACILLIN** (250 mg. capsules).

- **Dose: 500 mg. (2 tablets) four times a day for 10 days.**

OR,

If allergic to PENICILLIN:

Give **ERYTHROMYCIN** (250 mg. tablets)

- **Dose: 500 mg. (2 tablets) four times a day for 10 days.**

- If needed for pain, give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
- Patient education should include:
 - ☐ keep the breast supported. Use bra all of the time.
 - ☐ soak a cloth in warm, soapy water. Apply for 15 minutes, at least 4 times a day.
- Other plan: Go to plan 4.1 ("Normal Post Partum Patient"). Follow parts of that plan which apply.
- Plan to recheck at these times:
 - ☐ once a day until doing OK.
 - ☐ in 10 days (before the antibiotic is finished).

[3] If woman is breast-feeding, the problem may be a blocked milk duct and should first be treated for that.

Follow this plan:

- Patient education: Give information in chart 4.5

Chart 4.5

**Patient Education
BLOCKED MILK DUCT
IN BREAST-FEEDING MOTHER**

1. Apply heat (wet or dry) for 15 minutes, at least 4 times a day.
 - For example:
 - ☐ soak a cloth in warm, soapy water; apply to skin; cover with plastic wrap to keep in the heat.
 - ☐ take a warm shower.
 - ☐ lean over a basin of hot water with breast in the water.
 - ☐ use a heating pad.
 - It may help to do this just before nursing.
2. Keep the sore breast fairly empty:
 - *Continue to nurse on the sore side.*
 - Nurse every 2-3 hours. The more nursing the better.
 - Gently massage the sore area as baby sucks on that breast.
 - Change position: lie down, sit up, hold baby in different positions, so all areas of the breast are emptied.
3. Wear loose clothing.
 - If bra is too tight:
 - ☐ go without a bra.
 - ☐ it may help to use a bath towel fastened around you, for gentle support.
4. Get extra rest.

- If needed for pain, give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
- Other plan: Go to plan 4.1 ("Normal Post Partum Patient"). Follow parts of that plan which apply.
- Recheck in 24 hours. *If she is NOT getting better:*
 - ☐ report to your referral doctor.
 - ☐ tell her to continue to nurse often.
 - ☐ give antibiotics (DICLOXACILLIN or ERYTHROMYCIN), the same as for a woman who is NOT breast-feeding.
 - ☐ recheck once a day until doing better, and in 10 days (before the antibiotic is finished).

4.6 Plan: Breast Abscess

[1] Report to your referral doctor.
If you can NOT reach a doctor:

- Follow this plan until you can.
- Arrange for transport to hospital. Woman probably needs to have the abscess drained.

[2] Medicine should include the following:

- Give an antibiotic (DICLOXACILLIN or ERYTHROMYCIN), the same as for other breast infections (Plan 4.5).
- If needed for pain, give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).

[3] Transport patient to hospital.

While you are waiting to transport, your plan should include the following:

- If the woman is breast-feeding tell her to:
 - ☐ continue to nurse on the good side
 - ☐ squeeze out milk by hand on the infected side, while it is draining pus. Throw this milk away.
- Woman should apply heat (wet or dry) for 15 minutes, at least 4 times a day.
 - ☐ for example, soak a cloth in warm, soapy water; apply to skin; cover with plastic wrap to keep in the heat.
- Other plan: Go to plan 4.1 ("Normal Post Partum Patient"). Follow parts of that plan which apply.

4.7 Plan: Other Post Partum Problem

[1] Report to your referral doctor.

- While you are waiting to report, do the following:
 - ☐ go to plan 4.1 ("Normal Post Partum Patient"). Follow parts of that plan which apply.
 - ☐ treat other problems that you have found. Example: If painful, swollen leg, consider that the assessment may be "blood clot in leg vein" (p.36).

BREAST-FEEDING

The CHA/P's help and support is very important to a breast-feeding mother, especially if this is her first baby.

There are many good handouts on breast-feeding. Ask your referral hospital or other sources.

Patient education should include information in chart A, to help the breast-feeding mother in the first few weeks.

Report to your referral doctor if patient has problems other than those listed in chart A.

Chart A

**Patient Education
BREAST-FEEDING**

1. Hold baby in comfortable position.
2. Place baby at breast.
 - If breast is very full, first express some milk with your hand so baby can grasp nipple.
 - Do not hold both sides of baby's mouth; this will confuse him.
 - Touch baby's cheek with breast, and he will turn to find nipples.
 - To prevent sore nipples, baby should take enough of dark part of skin around nipple, so he is not just sucking on nipple that sticks out.
3. If breast is very full, hold breast away from baby's nose so he can breathe.
4. At first, nurse only a few minutes on each side; increase time as is comfortable.
5. Take baby off breast correctly to prevent sore nipples:
 - Gently break suction by placing a finger in corner of baby's mouth.
6. Nurse as often as baby demands at first, usually every 2-3 hours.
 - Nurse on both sides each feeding.

CARE OF NEWBORN AFTER DELIVERY

FOR ALL NEWBORNS

Begin here for care of all newborns. *If newborn is sick or small, after you check baby quickly, you will be referred to the special care section.*

General approach. Remember to prevent common problems:

- Dry baby.
- Keep baby warm:
 - ☐ wrap in warm towel or blanket, with head covered.
 - ☐ avoid putting baby in draft or on cold surface.
- Observe breathing. Suction airway as needed.
- Wash hands before touching baby.

1. Check Baby Quickly

1.1 The doctor will want to decide the Apgar score (p.187). For your records, at 1 and at 5 minutes after birth, tell your helper to *write down* the following information:

- Heart rate.
 - ☐ check pulse on cord or upper arm.
 - ☐ if you can NOT feel pulse, listen with stethoscope.
 - ☐ normal: heart rate is more than 100.
- Breathing.
 - ☐ normal: strong cry and regular breathing.
- Muscle tone.
 - ☐ normal: active movement, with arms and legs flexed.
- Response to suctioning.
 - ☐ normal: Coughs or cries.
- Color.
 - ☐ normal: pink color. Hands and feet may have blue color (cyanosis) for several hours.

1.2 Weight.

- Weigh baby quickly. Do NOT let him get cold.
- Write down the weight.
- If 5½ lbs. or less, now go to "Special Care for Sick or Small Newborn," p.185.
- If 9 lbs. or more, check blood sugar (Dextrostix®):
 - ☐ check NOW.
 - ☐ check ½ hour after every feeding for the first 12 hours.
 - ☐ if low blood sugar (less than 45 on Dextrostix®), give sugar as on p.186.

1.3 Temperature.

- Check a rectal temperature.
- Normal: 97.6° to 99.6° soon after birth.
- If temperature is less than 97.6°, rewarm as you would a sick or small baby (p.186).

1.4 If baby is NOT normal:

- Helper should finish the delivery and care for mother while most experienced CHA/P cares for the newborn.
- Now go to p.185. Consider that the assessment may be "sick newborn."

1.5 If baby seems normal, do the following:

- Put baby:
 - ☐ in warm towel or blanket, with head covered.
 - ☐ on mother's warm body.
 - ☐ possibly to her breast.
- Plan to recheck axillary (armpit) T, P, R at these times, more often if having problems:
 - ☐ 30 and 60 minutes after birth.
 - ☐ every hour for 4 more hours.
- Recheck temperature anytime if baby:
 - ☐ feels cold.
 - ☐ has blue color (cyanosis) of hands and feet longer than 3 hours after birth.
- Normal newborn vital signs:
 - ☐ axillary (arm pit) Temp.: 97.6° to 98.6°.
 - ☐ P: 120-160 a minute (30 to 40 in 15 seconds).
 - ☐ R: 30-60 a minute.

- The more baby sucks, the more milk you will have.
 - ☐ it takes about 2-3 days for your milk supply to catch up with baby's demand.
- 7. It takes about two months for your milk supply to become stable.
 - Be patient and have confidence in yourself.
 - If you are having problems, talk with your CHA/P before you decide to stop breast-feeding.
- 8. Common breast-feeding problems:
 - Breasts are too full.
 - ☐ to help milk leak out and relieve discomfort, take a warm shower or use warm packs on breasts.
 - ☐ feed baby more often.
 - ☐ do not supplement with formula.
 - Sore or cracked nipples.
 - ☐ nurse on good side first.
 - ☐ express milk with your hand on sore side.
 - ☐ limit nursing on sore side to 5-10 minutes.
 - ☐ do not use soap, alcohol, or lots of cream on nipples.
 - ☐ use only warm water to wash.
 - ☐ expose nipples to air, sunlight, or light bulb.
 - ☐ do not wear tight clothes across breasts.
 - Milk supply decreasing.
 - ☐ feed more often and for a longer time.
 - ☐ follow diet guidelines in plan 4.1.
 - ☐ be sure to drink extra fluids (8 glasses a day). Avoid caffeine drinks, such as coffee, regular tea, cola (p.446).
 - ☐ do NOT smoke.
 - ☐ get lots of rest.
 - ☐ wait until 4-6 months before starting baby on solid foods.
 - Blocked milk duct.
 - ☐ see information in chart 4.5.

2. Medicine

2.1 Give one of the following eye medicines to prevent infection:

Give **ERYTHROMYCIN OINTMENT**.

- Squeeze some ointment into the inside of each lower eyelid.

OR:

Give **SILVER NITRATE 1% ophthalmic solution**:

- Make a hole in the wax ampule with a sterile needle.
- Put one drop of the solution in each eye.
- Gently dry the eyelids with cotton or sterile gauze.
- Do NOT rinse out the medicine.
- The drops may make the eyes red or irritated for a few days.

2.2 Paint baby's cord with special medicine to prevent infection:

Use **TRIPLE DYE**.

- Paint the whole cord, including the cut end.
- Also paint the skin around base of cord.

2.3 Give medicine to prevent bleeding problems:

Give I.M. shot of **PHYTONADIONE** (Vitamin K, AquaMEPHYTON®):

- Use a 1 cc. tuberculin syringe and $\frac{5}{8}$ inch needle.
- **Dose:**
 - ☐ if less than 5 lbs.: $\frac{1}{2}$ mg. (0.25 cc).
 - ☐ if 5 lbs. or more: 1 mg. (0.5 cc).
- Inject the medicine I.M. into the correct spot on baby's thigh (p.423).

3. Report

3.1 Report to your referral doctor about mother and baby.

3.2 The doctor will want to decide the Apgar scores (p.187). Give information that was written down for baby at 1 and 5 minutes:

- ☐ heart rate.
- ☐ breathing.
- ☐ muscle tone.
- ☐ response to suctioning.
- ☐ color.

3.3 If mother had positive blood test for hepatitis B surface antigen, remind the doctor. Baby will need shots (step 6.1).

4. Exam

When baby is doing well and is keeping his temperature normal, examine him. Keep baby warm while examining.

4.1 General appearance, including the following:

- Position. Does baby lie flat or does he draw up his arms and legs?
- Activity. Does baby cry and move around when not asleep?
- Color.
- Breathing.
- Does baby suck when given bottle or breast or when finger is put in mouth?

4.2 Measurements:

- Weight, if not checked already.
- Length.
- Head circumference.
- Plot measurements on new growth chart.

4.3 Head:

- Check for swelling or bruising.

4.4 Eyes:

- Look in each eye for the red reflex:
 - ☐ this is a red color of the back of the eye (retina), seen through the pupil. It is the same thing seen as red eyes in picture taken with flashbulb.
 - ☐ it is best seen using an ophthalmoscope, but can be seen looking through an otoscope.
 - ☐ if you do NOT see the red reflex, plan to recheck on next visit.

4.5 Ears:

- Are ear canals open?

4.6 Mouth:

- Feel roof of mouth with your finger to make sure there is no opening (cleft palate). Feel all the way back to the throat.

4.7 Neck:

- Look and feel for any swelling.
- Feel collarbones to see if they are broken.

4.8 Chest, Back, and Lungs:

- Appearance. Note abnormal breathing, including:
 - ☐ short periods when breathing stops for at least 15 seconds (apnea).
 - ☐ retractions (skin between ribs pulls in when baby breathes in).
 - ☐ grunting noise when breathing.
 - ☐ noisy breathing.

- Breath sounds.

4.9 Heart:

- Heart sounds.

4.10 Abdomen:

- Appearance. Note if abdomen looks swollen (distended).

4.11 Genitals and anus:

- Note if it is difficult to decide if baby is a boy or girl.
- If a boy:
 - ☐ note if opening of penis seems to be in the wrong spot.
 - ☐ feel for both testicles.
- Anus: Be sure to take a rectal temperature once, to see if anus is open.

4.12 Arms and legs:

- Appearance:
 - ☐ does baby move arms and legs OK?
 - ☐ count fingers and toes.
- Check for dislocating hips (p.398).

5. Patient Education

Teach parents how to care for baby during the next day:

5.1 Show parents how to take an axillary (armpit) temperature.

5.2 Give parents the bulb syringe. Teach them how to use it.

5.3 Instruct on the way of feeding that mother has chosen:

- Breastfeeding (p.182).
- Iron fortified formula or evaporated milk formula (p.194).

5.4 Give information in Chart 5.

Chart 5

Patient Education CARE OF NEWBORN

1. Remember to keep baby warm.
2. Lay baby on his abdomen or side.
3. Observe baby closely. Every 4 hours for first 24 hours you should:
 - Check armpit temperature. It should be 97.6° to 98.6°.
 - Observe breathing. Suction with bulb syringe if needed.
4. Contact your CHA/P as soon as possible for danger signs, such as:
 - Signs of breathing trouble:
 - ☐ grunting noise when breathing.
 - ☐ flaring of the nostrils.
 - ☐ retractions (skin between ribs pulls in when baby breathes in).
 - ☐ fast breathing.
 - ☐ irregular breathing.
 - Abnormal cry.
 - Bleeding of the cord.
 - Diarrhea (can cause weight loss and dehydration).
 - Repeated jerking of arms and legs or face (seizures).
 - Signs of infection; may include:
 - ☐ vomiting or will not eat.
 - ☐ limp appearance. Does not move around much.
 - ☐ abnormal temperature (too high OR too low).
 - NO urine by 24 hours.
 - NO bowel movement by 48 hours.
 - Abnormal skin color: pale, blue, or yellow.
5. Diet: Feed baby as soon as breathing is normal and he has no problems.
 - Normal baby will be ready to eat by 4 hours of age.
6. Gently clean the cord and area around it with every diaper change:
 - Use a sterile Q-tip® soaked in alcohol.

- Look for bleeding. Look for redness (sign of infection).
- 7. A newborn tells you his needs by crying. Some cry more than others.
 - A baby needs love and attention as well as food to grow normally.
 - A newborn can not be spoiled. He needs stimulation by parents: Hold him; give close eye contact; talk to him; include him in family activities.

6. Recheck

If all is normal, plan to recheck baby at these times:

- 1, 2, and 3 days after delivery.
- 1 and 6 weeks after delivery.
- More often if problems.

6.1 Recheck at 1, 2, and 3 Days After Delivery

[1] Watch for poor feeding, breathing trouble, jaundice.

[2] Check weight.

- All babies lose some weight during the first 3-4 days.
- Baby should not lose more than 10% of birth weight. For example: If 7.5 lbs. at birth,
 $.10 \times 7.5 \text{ lbs.} = .75 \text{ lb.}$
Baby should not lose more than .75 lb.
 $= \frac{3}{4} \text{ lb.}$
 $= 12 \text{ ounces}$

[3] *If mother had positive blood test for Hepatitis B Surface Antigen, the doctor should order you to give:*

- Hepatitis B immune globulin (H-BIG).
- First immunization with hepatitis B vaccine (Heptavax®).

[4] When two days old, do special blood test: PKU, thyroid, and other tests are all done in one test. Follow these directions:

- Get the special laboratory card provided by your referral hospital. Note the 4 circles that you will fill with blood.
- Do a heelstick on baby (p.52).

- *Completely* fill all 4 circles with blood. They should be soaked through to the other side.
- Follow directions on the back to fill out card.
- Send card to your referral hospital. The doctor will tell you what to do if any of the tests are abnormal.

6.2 Recheck at 2 Weeks and 2 Months After Delivery

[1] Check weight. Baby should return to birth weight:

- If formula fed, by 10 days of age.
- If breast fed, by 14 days.

[2] Do a regular well-child check (p.188).

SPECIAL CARE FOR SICK OR SMALL NEWBORN

SICK OR SMALL NEWBORN: ASSESSMENT AND TYPICAL FINDINGS

SICK NEWBORN

Has one or more of the following:

History:

- Will not eat.
- Sleeping all the time.
- Vomiting or diarrhea.
- Repeated jerking of arms and legs or face (seizures).

Exam:

- Severe breathing problem (respiratory distress). May have:
 - ☐ blue color (cyanosis).
 - ☐ grunting noise when breathing.
 - ☐ respirations: always more than 60/minute.
 - ☐ retractions (skin between ribs pulls in when baby breathes in).
- Short periods when breathing stops for at least 15 seconds (apnea).
- Limp appearance (poor muscle tone).
- Abnormal temperature (too high, too low, or always changing).
- 5 minute Apgar score: less than 8.

SMALL NEWBORN (Premature OR low birth weight)

Exam:

- Weight: 5½ lbs. or less.
- May also have:
 - ☐ limp appearance (poor muscle tone).
 - ☐ soft and floppy ears.
 - ☐ little or no breast tissue.
 - ☐ few creases on bottom of feet.
 - ☐ lots of fine body hair.
 - ☐ thin skin.
 - ☐ little fat under skin.

1. Begin Care as for All Newborns

1.1 First, remember to prevent common problems and check baby quickly as for all newborns (p.183).

1.2 Next, have someone else contact your referral doctor and arrange for transport to hospital while you give the following care.

- The doctor will want to decide the Apgar scores (p.187). Have helper give information that was written down for baby at 1 and 5 minutes:
 - ☐ heart rate.
 - ☐ breathing.
 - ☐ muscle tone.
 - ☐ response to suctioning.
 - ☐ color.

2. Keep Baby Warm

A baby who is sick will get even sicker if he gets cold.

2.1 After drying the baby, loosely wrap arms, body, and legs in plastic wrap (Saran wrap®).

2.2 Put on a "stocking cap" made with clean material, such as a sock or Stockinette®.

2.3 Wrap baby in a warmed blanket. Be sure that you can observe baby without disturbing or unwrapping him.

2.4 Keep baby in a warm area.

- If incubator is available, place baby in incubator that has been prewarmed to 90-95°F.
- If incubator is not available, place baby in a box or other enclosure that
 - ☐ you can see into.
 - ☐ has room for hot water bottles.

2.5 Check baby's temperature. If less than 97.6°, do the following:

- Get hot water bottles.
- Wrap hot water bottles with towels or blankets so there are two inches of cloth between bottle and baby.
- Place hot water bottles in incubator or enclosure.
- Warning: Look at baby's skin often. Babies can get severe burns with hot water bottles.

3. Other Special Care

3.1 If breathing stops, do the following:

- Immediately rub baby's back or feet to stimulate.

• If baby does not start to breathe within 30 seconds:

- ☐ begin rescue breathing, one breath every 3 seconds.
- ☐ check pulse in cord or upper arm.
- ☐ if you can NOT feel pulse, listen with stethoscope.
- ☐ if heart rate less than 50/minute, add chest compressions. (5 compressions to 1 breath; CPR, p.3).

• If short periods when breathing stops for at least 15 seconds (apnea), give OXYGEN.

☐ follow guidelines on p.435.

• If blue color (cyanosis), give OXYGEN.

☐ give enough OXYGEN to keep baby pink.

☐ follow other guidelines on p.435.

3.2 Check blood sugar (Dextrostix®).

• If normal blood sugar (45 or more on Dextrostix®), plan to recheck blood sugar at these times:

- ☐ if doing OK, recheck every four hours.
- ☐ if sick or not eating, recheck every hour.

• If low blood sugar (less than 45 on Dextrostix®), do the following:

- ☐ have someone contact your referral doctor to report, while you begin to give sugar as in chart 3.2.
- ☐ recheck blood sugar as follows:
 - if taking formula, ½ hour after every feeding.
 - if NOT taking formula, every hour.

Chart 3.2

**LOW BLOOD SUGAR
EMERGENCY CARE:
GIVING SUGAR TO NEWBORN**

Low blood sugar is a serious emergency. Give sugar as soon as possible.

1. Give infant formula, if baby weighs more than 2½ lbs. and is NOT sick.

- Amount to give:
 - ☐ if 2½ to 3½ lbs., give 1/3 oz. (10 cc.).
 - ☐ if 3½ to 7½ lbs., give ½ oz. (15 cc.).
 - ☐ if more than 7½ lbs., give ¾ to 1 oz. (25 cc.).
- If baby will not suck:
 - ☐ insert a stomach tube (p.85).
 - ☐ use a syringe to give same amount of formula slowly through stomach tube.

2. If you do NOT give formula, give sugar the quickest way or ways that you can. For example, you may want to put glucose in baby's cheek and then set up an I.V. Give patient one or more of the following:

- Give glucose into patient's cheek pouch (area between cheek and teeth):
 - ☐ lay baby on his abdomen or side, to help prevent choking.
 - ☐ give **GLUCOSE PASTE** (Instagluco® or other commercially made product; may be with your emergency drug supplies).
 - ☐ or, give **50% DEXTROSE** I.V. fluid.
 - ☐ give 1 cc. into each side of mouth.
 - ☐ repeat in 30 min.
- Give I.M. shot of **GLUCAGON** (1 unit or 1 mg./ml; diabetic patient may have this in his home, for emergency use):
 - ☐ follow instructions on how to mix the medicine.
 - ☐ dose:
 - if less than 2 lbs.: 0.25 unit (0.25 cc.)
 - if 2-5 lbs.: 0.5 unit (0.5 cc.)

- if 5-7 lbs.: 0.75 unit (0.75 cc.)
- if more than 7 lbs.: 1 unit (1 cc.)
- ☐ if needed, repeat the shot two more times, for a total of three shots.
- Inject I.V. DEXTROSE:
 - ☐ start an I.V. (p.427). Use an I.V. fluid with 5% DEXTROSE, such as
 - 5% DEXTROSE & 0.9% SODIUM CHLORIDE.
 - LACTATED RINGER'S WITH 5% DEXTROSE.
 - ☐ to avoid giving baby too much fluid, *turn off I.V.* and give amounts that follow by I.V. injection (p.434).
 - ☐ as you begin, inject the following amount over 1 minute:
 - if less than 2 lbs., inject 4 cc.
 - if 2-4 lbs., inject 6 cc.
 - if 4-6 lbs., inject 11 cc.
 - if 6-8 lbs., inject 16 cc.
 - if 8 lbs. or more, inject 20 cc.
 - ☐ next, inject the following amount every 5 minutes:
 - if less than 2 lbs., inject 0.25 cc.
 - if 2 to 7½ lbs., inject 0.5 cc.
 - if more than 7½ lbs., inject 1 cc.

3.3 Recheck vital signs:

- Plan to recheck axillary (armpit) T, P, R at these times, more often if having problems:
 - ☐ 30 and 60 minutes after birth.
 - ☐ every hour.
- **Normal** newborn vital signs:
 - ☐ axillary (arm pit) Temp.: 97.6° to 98.6°.
 - ☐ P: 120-160 a minute (30 to 40 in 15 seconds).
 - ☐ R: 30-60 a minute.

3.4 If baby weighs more than 3½ lbs. and is NOT sick, feed the baby:

- Start at 2 hours after birth.
- Give infant formula slowly.
 - ☐ if 3½ to 7½ lbs., give ½ oz. (15 cc.).
 - ☐ if more than 7½ lbs., give ¾ to 1 oz. (25 cc.).

- Do NOT breast feed until referral doctor says it is OK.
- Feed baby every 2 hours.

4. Transport

4.1 Transport to hospital as soon as is safely possible.

- It is better to wait for someone to come get the baby who is prepared to take care of him than to transport him yourself.
- Follow guidelines in an emergency transport manual.
- While you are waiting to transport, give medicine as for all newborns (p.184).

GENERAL INFORMATION: ASSIGNING THE APGAR SCORES

Apgar scores are important in making an assessment of how well the baby will do. Your referral doctor will help you decide the scores after you give him information that was written down for baby at 1 and 5 minutes after birth.

1. Points are given for each of the things checked, as in the following Apgar Scoring Chart:

Apgar Scoring Chart					
THESE THINGS ARE CHECKED	POINTS GIVEN				
	0 points	1 point	2 points	At 1 min.	At 5 min.
HEART RATE	No pulse.	Slow; less than 100.	Over 100.		
BREATHING	None.	Slow or irregular Weak cry.	Good. Strong cry.		
MUSCLE TONE	Limp.	Some flexion of arms and legs.	Good; active movement. Arms and legs well flexed.		
RESPONSE TO SUCTIONING	No response.	Makes a face (grimace).	Coughs or cries.		
COLOR	Blue or pale all over.	Body pink, hands and feet blue.	Pink all over.		
TOTAL =					

2. The points are added to get both Apgar scores.

For example:

HEART RATE:
over 100 = 2 points

BREATHING:
Good, strong cry = 2 points

MUSCLE TONE:
Baby is active,
arms and legs flexed = 2 points

RESPONSE TO SUCTIONING:
Baby cries = 2 points

COLOR:
Hands and feet are blue = 1 point

TOTAL = 9 points

3. Normal: a score of 8 to 10 points.

4. If score is less than 8:

- Watch baby carefully for breathing problems.
- Be ready to do rescue breathing or CPR if needed (p.3).
- Treat as in "Special Care for Sick or Small Newborn," p.185.

WELL CHILD CARE

GENERAL INFORMATION

Give regular well child care to infants and preschool age children.

Schedule well child clinic as follows:

- Schedule one or more a month if you have several infants in your village.
- Remind parents when to bring children in and how important it is.
 - ☐ make up posters and put them around town.
 - ☐ if needed, visit parents at home to remind them.
- Schedule well child clinic apart from regular patients:
 - ☐ children will not be exposed to as many infections.
 - ☐ parents will not have to wait a long time.

Start well child care early and check patients regularly.

- When a new child comes to the village:
 - ☐ visit child and parents at home.
 - ☐ explain well child care.
 - ☐ read the hospital discharge summary if parents have a copy.
 - ☐ if no discharge summary, ask the following:
 - was labor and delivery normal?
 - did baby breathe right away?
 - what was birth weight and length?
 - any problems with feeding?
 - any jaundice (yellow color of skin)?
 - any other problems soon after birth? Was baby in hospital longer than 2-3 days? If so, why?
- ☐ schedule a well child appointment.
- ☐ call your referral doctor if there were problems and you need more information.

• Well child care is important in order to:

- ☐ answer parents' questions.
- ☐ observe child's growth and development.
- ☐ discover anemia and other problems early.
- ☐ promote good child health through parent education, including:
 - child development.
 - safety.
 - proper feeding.
- ☐ prevent health problems by giving:
 - immunizations.
 - VITAMINS, IRON, & FLUORIDE.

THE WELL CHILD VISIT

Summary THE WELL CHILD VISIT

1. History: Discussion with Parent.
 - Concerns.
 - Present & past health history.
 - Feeding.
 - Development.
 - Family and home life.
2. Weigh and Measure.
3. Exam.
4. Assessment.
5. Plan.
 - Patient education.
 - VITAMINS, IRON, & FLUORIDE.
 - Immunizations and tests.
 - Other plan.
6. If Child Is NOT Growing or Developing Normally.

Give patient education at any time during the visit.

1. History: Discussion with Parent

1.1 Concerns

[1] Do parents have any concerns or questions? If so:

- Write down concerns, and be sure to answer them before child leaves.

1.2 Present & Past Health History

[1] Does child have any problems or complaints now? If so:

- Find out more. If needed, get history of present illness (inside cover).
- *If child is ill now* with some problem:
 - ☐ now go to that problem section in this manual.
 - ☐ be sure to return to this section afterwards.

[2] Ask about child's health since last well child visit.

[3] Review chart for past health history (p.364).

[4] Is child taking any medicines now?

1.3 Feeding

[1] If less than one year, ask about the following:

- If mother is breast-feeding, ask:
 - ☐ how often and for how long does baby nurse?
 - ☐ are there any problems (p.183)?
- If mother is NOT breast-feeding, ask:
 - ☐ what formula is baby on?
 - ☐ how many ounces does baby take in 24 hours?
 - ☐ how often does baby eat?
- Is baby eating any solid foods? If so:
 - ☐ what?
 - ☐ how much?
 - ☐ how often?
- Does baby get any extra VITAMINS, IRON, FLUORIDE?

[2] If one year or more, does child:

- Eat with the family?
- Eat a well-balanced diet with foods from the four food groups every day (p.444)?
- Drink from a cup?
- Get FLUORIDE?

1.4 Development

[1] Does child see and hear OK?

[2] Use the developmental questions list on back of the State of Alaska's Child Health Assessment Record, as in the example that follows.

- Find child's age in years and months.
- Ask questions about the *next 10* developmental steps. *Ask parent:* "Does the child do the following things?"
- Check off each step if answer is yes.
- Record as normal if 9-10 answers are yes.

1.5 Family and Home Life

[1] Find out about how child gets along with rest of family:

- How are mother and father doing with the child?
- Who lives at home?
- How do brothers and sisters get along with child?
- Does anyone else care for child regularly?
- Are there any family problems such as:
 - ☐ drinking alcohol or taking other drugs?
 - ☐ not enough money or food?

[2] Watch for any signs of neglect or abuse that might go along with family problems (p.196).

2. Weigh and Measure

2.1 Check carefully:

- Weight (p.374).
 - ☐ if 18 mo. or less, weigh with all clothes off.
- Length (p.373).
- Head circumference (on children up to 3 years, p.374).

2.2 Plot all measurements carefully:

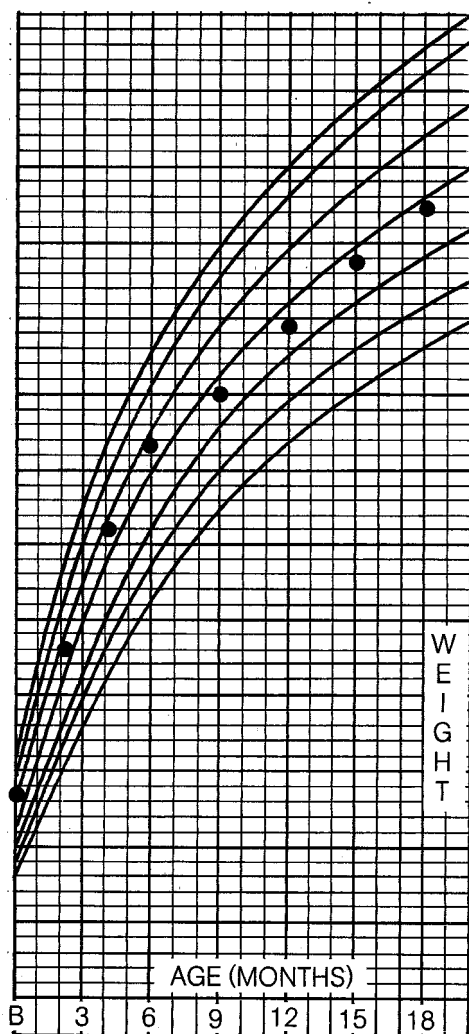
- Plot on growth chart *AND* on Parent Held Health Record form.

- Normal: A steady upward curve.

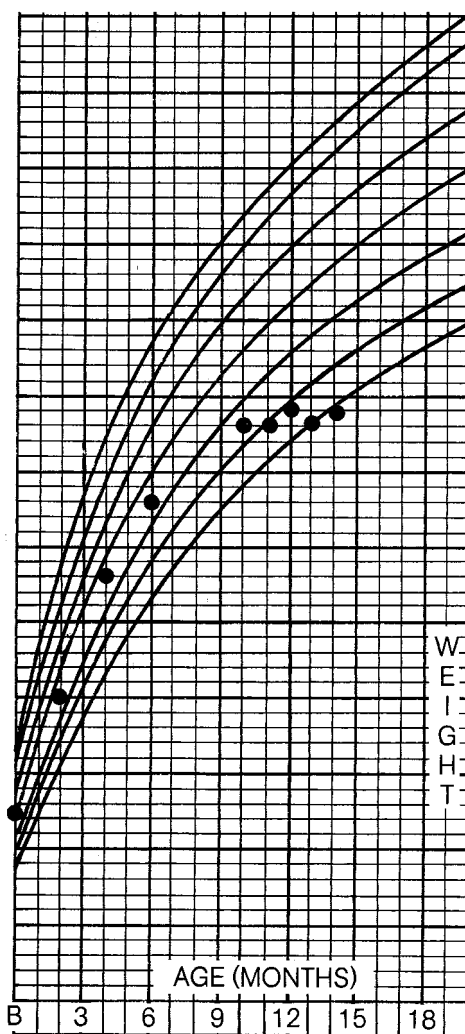
2.3 If growth curve looks abnormal, recheck measurements and growth chart plotting.

0.3 (Years-Months)	1.11
Moves all extremities easily. Has eye contact.	Pinches raisin with thumb and index. Rolls ball back. Drinks from cup, no spills.
0.4	2.0
Cooing, gurgling. Supine, turns head to midline. Supine, turns head almost 180°. Smiles. Prone, lifts head 30°. Prone, lifts head 45°. Prone, lifts head 90°. Laughs when tickled.	Copies adult activities.
0.5	2.1, 2
Touches hands together.	Stacks 2 1-inch blocks.
0.6	2.3
Supine, turns head full 180°. Upright, holds head steady. Grasps pen.	3 real word vocabulary.
0.7	2.4, 5
Prone, pushes up with arms. Squeals. Rolls over. Smiles at object.	Walks backward steps.
0.8	2.6
Focuses on small objects. Picks up toy.	Takes off shirt or pants.
0.9	2.7, 8
Head steady when pulled up. Passes objects hand to hand. Looks for hidden objects. Holds 2 objects in 2 hands. Bears some weight on legs. Picks up small objects.	Walks up steps.
0.10	2.9
Stays sitting up for 60 seconds. Feeds self a cracker.	Points to nose when asked. Uses spoon well. Puts away toys when asked. Kicks small ball.
0.11	3.0
Responds to soft sounds. Reaches for objects.	Scribbles. Stacks 4 1-inch blocks. Puts noun and verb together. Names animal pictures.
0.12	3.3
Plays a peek-a-boo. Grasps pen tightly.	Throws ball 5 feet overhead. Follows action-oriented commands. Draws 2-inch straight vertical line. Jumps over object.
1.1	3.6
Stands up, holds on for 30 seconds. Says "mama" or "dadda". Pulls self up to stand.	Puts on shoes.
1.2	4.0
Shy with strangers. Grasps objects with fingertips. Sits up without help.	Pedals tricycle. Washes hands well.
1.3	4.3
✓Imitates 3 words. ✓Bangs 2 objects together.	Uses plural words. Balance on 1 foot for 2 seconds. Jumps 12 inches. Copies circle.
1.4	4.6
✓Walks alone or holding on.	Stacks 8 1-inch blocks.
1.5, 6	4.9
✓Waves bye-bye.	Plays hide and seek. Can dress self almost completely. Says full name without help.
1.7	5.0
✓Calls for parents by "mama" or "dadda".	Tells what he does when cold, hungry, tired. Buttons dolls' clothing.
1.8	5.3
✓Stands alone for 5 seconds. ✓Stands alone for 30 seconds.	Balances on 1 foot for 6 seconds. Identifies bigger line.
1.9	5.6
Bends over to pick up toy. ✓Makes needs known with hands.	Copies cross.
1.10	5.9
✓Walks steady without help.	Follows place-oriented commands. Can be easily left with strangers.
	6.0
	Identifies 4 primary colours. Hops on one foot. Can dress self completely. Draws man, 3 parts show. Draws man, 6 parts show. Finishes simple analogies. Catches small ball with hands. Balances on 1 foot for 11 seconds.

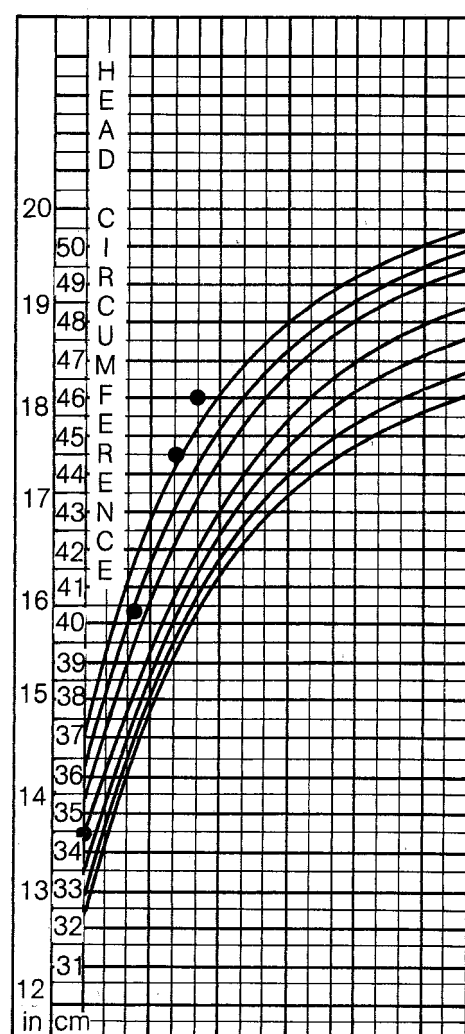
Example of normal development for age 15 mo. (1 yr. 3 mo.).



Normal growth curve. Weight gain was slower than normal between 6-9 months. After that, it is normal.



Abnormal growth curve. Weight gain was normal until 6 mo. Then, child stopped gaining normally.



Abnormal growth curve. Head is growing too fast.

3. Exam

General approach. The following may help:

- Reassure the child.
 - ☐ it may help to examine child on parent's lap.
- Child should be quiet for certain parts of the exam. Check lungs, heart, and abdomen *before* checking ears, mouth, and hips.

Do a screening physical exam (p.368). Also check the following:

- 3.1 General appearance:**
 - Also note how parent and child get along.

3.2 Eyes:

- If an infant, does he look at and follow a light or object?
- Check to see if eyes are crossed:
 - ☐ shine a flashlight from a few feet away onto child's forehead.
 - ☐ does light reflect normally from same place on both eyes (p.377)?

3.3 Ears:

- If infant or young child, check hearing by making a soft sound behind child's head.

3.4 Teeth:

- Teeth usually begin to show when child is age 6-7 mo. (p.356).
- Especially note any yellow or brown

color on upper front teeth (bottle mouth, p.232).

3.5 Abdomen:

- Also feel for hernia of the belly button area (umbilical hernia).

3.6 If infant boy, be sure to feel scrotum to check for:

- Both testicles.
- Abnormal "bag of water" (hydrocele) around a testicle.

3.7 If NOT walking yet, check hips (p.398).

4. Assessment

4.1 Your assessment should be:
Well child care.

4.2 If you have found a problem, include this in your assessment, such as:

- Child NOT growing or developing normally.
- Bottle mouth.
- Possible child abuse or neglect.

5. Plan

5.1 Patient education should include the following:

[1] General information for all should include the following:

- Get patient education handouts from your referral hospital or other sources.
- Give information in chart 5.1, "Parent Guidance."
 - ☐ find age that is closest to child's age, and give parents information for that age.
 - ☐ the development column will help you teach parents what to expect at different ages.

☐ the stimulation column tells what can be done at different ages to stimulate development.

- Remember that all children develop at different rates.
 - ☐ it is normal for some children to develop slower and some faster than what is written.
 - ☐ if parents know what to expect, they may understand, enjoy, and stimulate their child more.

Chart 5.1

Patient Education PARENT GUIDANCE

Age	Development	Stimulation	Safety	Feeding	Other Guidance
2 WKS.	Can see, hear. May cry a lot especially in evening. Sneezes, coughs, hiccups, yawns.	Talk to baby. Hold baby. Use colorful hanging toys.	Always use car seat when in car. Prevent choking and suffocation: <ul style="list-style-type: none"> • Do NOT prop bottle. • No small objects in crib. • Keep plastic bags away. 	Water not necessary. No "juices" from a bottle. Feed on demand, every 2-4 hours.	When washing: <ul style="list-style-type: none"> • Wash scalp, to prevent cradle cap. • Clean only outer ear; no Q-tips® into ear. • NEVER force the foreskin back. • Some detergents, bleaches, fabric softeners can cause rashes.
2 MO.	Smiles, coos, gurgles. Alert: Likes to look around. Can look at face or object and follow it with eyes. Head control getting better.	Talk and sing to baby. Play with baby. Put pictures and unbreakable mirror in crib. Place baby on stomach with soft, safe toys.	Prevent falls: Do NOT leave alone on table top or bed.	Wait until 4-6 months before starting solid food (may cause allergies, colic, overfeeding). Feed about every 4 hours; baby may skip night feeding.	Teach parent how to take rectal temperature.
4 MO.	Laughs out loud. Holds head steady when sitting. Rolls over at 4-5 months. Teething may start. Starting to reach for and grasp objects and put in mouth.	Music. Toys: Safe dangling toy, block, ball, rattle, bell. Take outside in good weather.	Keep small objects away. Protect from rolling.	Start with infant rice cereal at 4-6 months. Do NOT put cereal or juice in bottle. No more than 32 ounces of formula in 24 hours. Do not overfeed; baby knows when to stop.	Prevent future tooth decay: give FLUORIDE. It is NOT necessary to pull back the foreskin.

Chart 5.1

Patient Education (continued)
PARENT GUIDANCE

Age	Development	Stimulation	Safety	Feeding	Other Guidance
6 MO.	Babbles. Turns to voice. Starting to be shy with strangers. Brings feet to mouth. May start crawling or scooting. Grasps and moves toy from hand to hand.	Imitate sounds. Toys: Household objects (plastic cups, spoons, pot-lids), ball, squeaky and teething toys. Play peek-a-boo. Put toys in bath.	Protect "creeping" baby with: • Electric outlet covers. • Cabinet and drawer locks. • Poisons and plants up high. • Protection from stove. • Stair guards. • SAFE highchair. • NEVER leave baby alone in tub.	Give only 1-2 new foods a week. Watch for allergies: rash, vomiting, or diarrhea. Start table and finger foods. Avoid regular canned foods. Help baby drink from cup. Do NOT give egg white until after one year of age.	Prevent anemia: • Continue infant cereal until 18 months. • If breast-feeding or on evaporated milk formula, give IRON (VITAMINS with FLUORIDE and IRON).
10 MO.	Says "Mama", "Dada". Repeats sounds you make. Plays peek-a-boo, pat-a-cake. Feeds self a cracker. Holds own bottle. Pulls to standing.	Let baby feed self. Let baby explore safe places. Praise baby when he tries to walk or talk. Toys: Kitchen utensils, empty boxes, motion toys. Give books of his own.	PREVENT: • Poisoning: Keep IPECAC at home. • Burns: Always check bath water. • Falls: Guard stairs. • Choking: No nuts, popcorn, hard candy, dry beans.	Table foods and Native foods are good. Do NOT give Kool-Aid®, candy, chips, sweets. Do NOT give foods that can cause choking: hotdogs, peanuts, grapes, baby meat sticks.	Prevent "bottle mouth": • Wean to a cup. • Plain water only if baby takes bottle to bed. • Give FLUORIDE.
15 MO.	Uses "Dada" and "Mama" for correct parent. Talks a lot. Uses sounds, not always real words. Drinks well from cup. Makes needs known by pointing and words, not crying. Walks well.	Name objects and body parts. Read books. Give different things to smell. Toys: Ball, trucks, blocks.	Prevent burns: • Do NOT let cords hang over counter. • Cover outlets. • Hide matches. • Turn pot handles to back of stove. • Lower hot water temp. to 120°. • Teach "hot"/"cold". Prevent falls: • Remove from crib when rails are less than $\frac{3}{4}$ of baby's height. • NO standing in high chair. Prevent Poisoning (p.16).	Needs 2-3 cups milk in 24 hours. Give table foods from all 4 groups. (p.444). Wean from bottle. Does NOT need extra VITAMINS and IRON after 1 year of age, unless not eating well or has anemia.	Brush baby's teeth for him. Let baby try brushing own teeth. May become attached to favorite blanket or toy. Thumb sucking will not harm teeth at this age. Wait to toilet train until child seems ready: • Has interest in it. • Is walking well. • Can tell you when diaper is wet or dirty.

Chart 5.1

Patient Education (continued)
PARENT GUIDANCE

Age	Development	Stimulation	Safety	Feeding	Other Guidance
18 MO.	Speaks 3 words other than "Mama" "Dada". Imitates housework. Can stack 2 blocks. Climbs. May bite, pinch, pull hair, but not to be mean.	Expand on what baby says. Baby's language will improve the more you talk to him. Read to baby. Games: chase, ball. Toys: large blocks, push-pull toys, noisy and musical toys, dolls.	Prevent Poisoning (p.16). NEVER leave alone in tub. Watch carefully when around refrigerators, freezers, washers, dryers. Teach about falling from tables and chairs.	Wean from bottle. Appetite decreases at this age. Eats with family. Give 3 meals a day, plus nourishing snacks: Fresh or dried fruit, unsweetened juices, milk, cheese, smoked or dried fish, fish eggs, cold meats. Give foods high in iron (p.448).	Use words "stop" or "wait" instead of saying "no" to child all the time. Discipline is teaching and limiting, not just punishment. Do not punish by hitting. <i>If not circumcised</i> , it is normal NOT to be able to pull back foreskin (Most can be pulled back by age 5).
2 YRS.	Puts 2-3 words together. Points correctly to one body part when asked. Imitates adults, likes to help. Climbs, runs well. Walks up and down steps, one step at a time.	Toys: riding toy, books, puzzles, crayons, sandbox.	Protect from falls. Teach safety and prevent accidents: road (street), water, boats, snowmachines, 3-wheelers, guns, dogs.	Do NOT force, bribe, or reward with food.	Expect child to say "no", and to "not share." Praise good things child does. Ignore temper tantrums. Keep rules simple. Be firm and consistent. Accidents happen and child does NOT need to be punished.
3 YRS.	Speaks 3-5 word sentences. Uses plurals. ¾ of child's speech is understandable. Washes and dries hands. Jumps in place. Pedals tricycle. May tell fibs, use "swear words."	Listen to and make music. Play make-believe, finger games, counting. Toys: Clay, colors, paints, pedal toy. Let child dress self with easy-to-put-on clothes.	Teach about motor vehicles, sharp objects, poisons, strange animals, fires, and cold weather safety.	Still needs 2 cups of milk a day. Parents must choose good foods for child from 4 food groups (p.444).	Needs routines. Likes to run small errands. Get dental exam if not done yet. Limit TV watching, especially violence.
4 YRS.	Gives first and last names. Dresses with supervision. Balances on 1 foot for 5 seconds. May be interested in "fighting" and "killing" games.	Start in preschool if possible. Use paper, pen, scissors. Encourage books, music, dancing, telling stories.	Teach child to be careful with strangers.	Limit "junk" foods and eating between meals.	Friends are important. Try not to compare child with others. Set a good example: • Sharing. • Talking about feelings.

[2] Kinds of milk to give during child's first year are listed in order of recommended use:

- Breast milk. Reasons why this is the first choice for babies include the following:
 - ☐ it is digested easily and has exactly the right nutrients.
 - ☐ it protects against infections.
 - ☐ it causes fewer allergies.
 - ☐ feeding too much is usually NOT a problem.
- Iron fortified formula.
 - ☐ If you need to mix this formula with water, use clean/safe water. If you are NOT sure the water is safe from germs, boil the water for 5 minutes first.
- Evaporated milk formula.
 - ☐ use this *only* if breast-feeding or infant formula is NOT available.
 - ☐ mix the formula for one bottle as follows:

Age	Formula
Less than 6 months	2 oz. evaporated milk 3 oz. clean/safe water 2 tsp. sugar (avoid infant botulism: Do NOT use honey or corn syrup)
6 months or more	4 oz. evaporated milk 4 oz. clean/safe water (Do NOT add sugar)

- If you are NOT sure the water is safe from germs, boil the water for 5 minutes first.

5.2 VITAMINS, IRON, and

FLUORIDE supplements should be given to every child, as follows:

[1] If less than one year, give the following supplements, according to kind of milk baby takes:

- If breast-feeding, give **VITAMINS with FLUORIDE & IRON** (Poly-Vi-Flor with Iron®).
 - ☐ dose: 1.0 ml., once a day.
- If taking iron fortified formula, mixed with water that is NOT fluoridated, give **FLUORIDE** tablets.
 - ☐ dose: ½ tablet, crushed, once a day.
- If taking evaporated milk formula, give **VITAMINS with FLUORIDE & IRON** (Poly-Vi-Flor with Iron®)
 - ☐ dose: 1.0 ml., once a day.

[2] If one year or more:

- Child does NOT need VITAMIN and IRON supplements.
- If NOT drinking a quart of fluoridated water a day, give the following:

Give **FLUORIDE** tablets.

- Patient should NOT take tablet with milk, or it will not work as well.
- Crush up tablet or chew **once a day**:

Age	Dose
1-3 yrs.	½ tablet
3-16 yrs.	1 tablet

5.3 Immunizations and tests are an important part of well child care:

[1] Decide which immunizations and tests are due. Use chart 5.3 **[1]**.

[2] Decide if it is OK to give child immunizations:

- Do NOT give immunizations if:
 - ☐ child has rectal temperature of 100.6° or higher.
 - ☐ child is sick with an illness more serious than a cold.
- It is OK to give child immunizations if he has just a cold.
- Report to your referral doctor or PHN before giving immunizations if child has history of:
 - ☐ convulsions (seizures).
 - ☐ unexpected reaction to immunization in the past, such as a fever higher than 104° or severe reaction.

Chart 5.3 **[1]**

IMMUNIZATIONS & TESTS: SCHEDULE

AGE	IMMUNIZATION OR TEST
2-3 days	HEPATITIS B Vaccine (Heptavax®)
2 mo.	ORAL POLIO VACCINE (OPV) DIPHTHERIA, TETANUS, PERTUSSIS (DTP) HEPATITIS B VACCINE
4 mo.	OPV DTP
6 mo.	DTP HEPATITIS B VACCINE Hemoglobin test
10 mo.	TB skin test Hemoglobin test
15 mo.	MEASLES, MUMPS, RUBELLA (MMR)
15-18 mo.	OPV DTP Hemoglobin test
4-6 yrs.	OPV DTP Hemoglobin test
14-16 yrs.	Adult TETANUS, DIPHTHERIA (Td) Hemoglobin test

[3] Give immunizations and tests.

- For giving immunizations, use chart 5.3 **[3]**.
 - ☐ include parent education about usual side effects and what to do for them.
 - ☐ follow guidelines in your region.

5.4 Other plan should include the following:

[1] If you found another problem, treat as in this manual. Examples:

- Child not growing or developing normally (step 6).
- Bottle mouth (p.232).
- Low hemoglobin, less than 11 (p.25).
- Possible child abuse or neglect (p.196).

Chart 5.3 [3]

Giving Immunizations					
Immunization	Dose	Where to Give	Syringe/Needle	Usual Side Effects	What to do for Side Effects
ORAL POLIO VACCINE [OPV]	Give all in dropper.	In mouth.	None.	None	
DIPHTHERIA, TETANUS, PERTUSSIS [DTP; for age less than 7]	I.M. shot of 0.5 cc.	If less than 40 lbs., give in thigh (p.423). If 40 lbs. or more, give in upper arm (p.425).	Tuberculin syringe. 22G x 1" needle.	Fussiness. Fever (101-103° for 24 hrs). Red, sore lump where shot was given.	Extra holding. ACETAMINOPHEN (Tylenol®, p.416). Place warm, wet cloth on sore area.
ADULT TETANUS, DIPHTHERIA [Td; for age 7 or more]	I.M. shot of 0.5 cc.	Upper arm (p.425).	Tuberculin syringe. 22G x 1" needle.	Red, sore lump where shot was given.	Place warm, wet cloth on arm.
MEASLES, MUMPS, RUBELLA [MMR]	Subcutaneous shot of all that you mix.	If less than 40 lbs., give in thigh (p.423). If 40 lbs. or more, give in upper arm. (p.425).	Tuberculin syringe. 25G x 5/8" needle.	1-2 wks. later, may develop: • Fever. • Rash.	ACETAMINOPHEN (Tylenol®, p.416).
HEPATITIS B VACCINE [Heptavax®]	I.M. shot of 0.5 cc.	If less than 40 lbs., give in thigh (p.423). If 40 lbs. or more, give in upper arm. (p.425).	Tuberculin syringe. 22G x 1" needle.	A little soreness where shot was given.	No treatment needed.

[2] Be sure to fill out forms for parents:

- Parent Held Health Record.
- State Immunization Card.
- ☐ remind parents the immunization card is needed for child to start school.

[3] Recheck. Make appointment for next visit. Recheck child at these ages, more often if there are problems:

- 2 weeks.
- 2 months.
- 4 months.
- 6 months.
- 10 months.
- 15 months.
- 18 months.
- 3 years.
- 5 years.

[4] Report to your referral doctor.

- If possible, send a copy of your SOAP note to the doctor. Contact him sooner if you found any problems.

6. If Child is NOT Growing or Developing Normally

Follow this additional plan:

6.1 Report to your referral doctor or PHN.

- If you did NOT find any other problems, write to the doctor or PHN. Send the following:

- ☐ copy of your SOAP note, including information about child's development.
- ☐ copy of child's growth curve.
- If you found another problem, contact the doctor at your regular time.
- While you are waiting, follow this plan.

6.2 Special care should include the following:

- It is especially important to use chart 5.1, "Parent Guidance," to remind parents about:
 - ☐ development and stimulation.
 - Teach parents what to expect at

different ages and ways to stimulate child's development.

- ☐ feeding. The child should get the right kind and amounts of food and milk.
- Encourage parents to hold child, talk to him, and give him lots of love and attention.
- *If not growing normally*, refer child less than 5 to WIC nutrition program.
 - ☐ if you are not sure who to contact, ask your PHN.
- *If not developing normally*, refer child less than 3 to Infant Learning Program in your area.
 - ☐ if you are not sure who to contact, ask your PHN.
- Check to see that:
 - ☐ child's name is on list of patients to be seen on a field trip by doctor, PHN.
 - ☐ this problem is written on child's problem list.

6.3 Recheck as follows:

- Recheck at these times:
 - ☐ if age less than 6 months, recheck every two weeks.
 - ☐ if age 6 months or more, recheck in one month.
- Weigh and measure and plot on growth chart.
- In one month:
 - ☐ *if growth curve has not improved OR if development is abnormal*, report to your referral doctor or PHN.
 - ☐ if growth curve has improved and development is normal, recheck again in one month.

CHILD ABUSE AND NEGLECT

A child may be harmed on purpose with physical or mental injury (abuse). Or, a child may not be given the things he needs for healthy physical and mental development (neglect).

Abuse and neglect are serious problems. Pay attention to either one. Unless the problem is solved, the child may have emotional or developmental problems, may be seriously injured, or may even be killed.

- *If you see a child that you feel has been abused or neglected:*
 - ☐ treat any injury or other problems. Example: Rape (p.17).
 - ☐ follow these additional guidelines.

1. History

Talk to the child in private, if possible.

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** If you suspect sexual abuse, ask the child these questions in private:
 - Does child have any problems of the genitals, such as:
 - ☐ a sore, rash, or growth?
 - ☐ pain, swelling, or itching?
 - ☐ discharge from the penis or vagina?
 - Does child have pain or burning when urinating?
 - Did someone touch the genital area? (It may be easier for a young child to use a doll to explain what happened.)
 - Ask an older girl if she has started having menstrual periods yet. If so, when was her last period?

1.2 Past Health History

- [1]** Review chart from well child and other visits.
 - Has growth curve been normal?
 - Has development been normal?
 - Are immunizations up to date?
- [2]** *If school age*, is child:
 - Going to school?
 - Having any problems at school or with school work?
 - ☐ has there been a change in school performance?
 - ☐ does child seem tired a lot?

1.3 Personal/Social History

- [1]** Does child drink alcohol or take illegal ("street") drugs?
- [2]** Does child have many friends?
- [3]** Has child been in trouble with the law?
- [4]** Family and home life. It may be difficult to ask some of these personal questions, but it is important for the safety and well-being of the child:
 - Do the parents feel they are having problems raising their children?
 - ☐ encourage them to talk about their problems, so you understand better.
 - Are the parents too busy to care for the child?
 - ☐ is child left alone for long periods of time?
 - Ask what the parents expect from the child.
 - ☐ do they expect child to be developing and learning new skills faster than he is? (Normal development information is on p.189.)
 - ☐ do they feel the child is too demanding?
 - ☐ do they feel the child is "bad" or often naughty?
 - ☐ are they bothered by child's crying?
 - Are there problems with:
 - ☐ family or marriage?
 - ☐ finances (money troubles)?
 - ☐ drinking alcohol or taking other drugs?
 - What do parents do when they are angry?

2. Exam

- 2.1** Look and feel for injuries as you **do a screening physical exam (p.368)**.
 - Child should be undressed.
 - Be gentle, but do a complete exam.
- 2.2** Lab. test: Hemoglobin.

3. Assessment

- 3.1** Your assessment may be: **Possible child abuse or neglect.**
 - Use chart 3.1.

Chart 3.1

CHILD ABUSE OR NEGLECT: TYPICAL FINDINGS

History:

- Many skipped appointments for well child care or dental care.
- Parents make emergency visits or calls for what seem to be little problems. **This may be the parent's way of asking for help.**
- Injuries or accidents:
 - ☐ history of frequent accidents or unusual injuries.
 - ☐ parent brings child to clinic a long time after an accident occurred.
 - ☐ parent does not seem to want to give information.
 - ☐ history given by parent does not agree with what the child or other person says.
- Not developing normally.
- Child is not receiving the proper stimulation and care at home.

Exam:

- Any injury.
 - ☐ may not fit parent's description of the accident.
- General appearance: Aggressive, withdrawn or frightened; signs of poor nutrition; lack of cleanliness; other signs of poor care.
- Not growing normally.
- Head: May have bald patches.
- Ears: May have hole in eardrum or blood behind eardrum.
- Teeth: May have many cavities.
- Genitals:
 - ☐ unexplained injury.
 - ☐ VD in a young child (such as discharge from the penis or vagina).
 - ☐ pregnancy in a young girl.
- Skin:
 - ☐ unexplained burns of unusual type or in unusual location. (Round ulcer-like burns may be from cigarettes.)
 - ☐ old injuries such as burns, scars, and cuts.
- *If sexual abuse*, victims usually have no signs of injury, but may

have mental health problems such as the following:

- ☐ guilt, sadness, fear, feeling bad about themselves (poor self-esteem).
- ☐ running away from home.
- ☐ suicide attempts.
- ☐ being sexually active with many partners.

4. Plan

4.1 Report. You are required by state law to report all cases of possible child abuse or neglect.

- If you are afraid for the child's safety, report NOW.
 - ☐ child may have to be taken from the home for a while.
- Report directly to the Division of Family and Youth Services.
 - ☐ call the long distance operator, and ask for ZENITH 4444 (This is a free call).
- *If you can NOT reach that number*, report to your referral doctor, social worker, PHN, trooper, village safety officer, or other appropriate person in your region.
- Keep the information confidential. Talk only to the necessary legal and medical people.

4.2 Special care should include the following:

- Treat injuries or other problems. Follow the guidelines in this manual.
- Help parents to talk about their problems and feelings.
 - ☐ follow general guidelines for talking and counseling (p.219).
- Patient education for parents should include:
 - ☐ normal child development and stimulation (p.191).
 - ☐ guidelines for reducing stress (p.221).

4.3 Recheck according to your referral person's advice, which should include the following:

- Work closely with the social worker or other person assigned to work with the family.

- Make home visits often to see how the child is doing and to let the parents know you care.
- Check to be sure child is brought to clinic for well child care, including immunizations.

Child Abuse and Neglect: General Information

The abusing family may show some or all of the following things:

- Family is under stress.
- Abuser has low self-esteem.
- Mother or father is young or immature.
- Alcohol is part of the problem.
- One parent is reluctant to stand up to protect the child.
- One or both parents have history of child abuse.
- Parents have little understanding of normal child development and child care.
- Parents are raising an unwanted child.

The abused child is most likely to be an infant or pre-schooler. He is also more likely to be a child who:

- Is difficult to manage (hyperactive, retarded, chronic illness).
- Is difficult to satisfy; demanding.
- Was separated from mother during infancy because of illness in mother or baby.

APPROACH TO THE SICK CHILD

Sometimes a child is sick and you can not tell what is causing the illness. It may be especially hard to find out what is wrong with a young child because he cannot tell you about his problem.

It is very important that you check out every sick child carefully. Begin here if

a child is sick and you are not sure what questions to ask or what exam to do.

If you find that there is one main problem, look up that problem in the index and go to that section.

1. Make Friends and Observe

1.1 Make friends with the child and begin to observe him.

- You can often decide how sick a child is by observing him.
- It is important to observe him now because after you weigh him or take his temperature he may be upset and you will not know what he is like when he is quiet.
- Make friends with him.
- Do not move quickly toward him.
- Give him something to play with (your stethoscope).
- Talk quietly to child and not just to parent.
- Continue to observe child while you ask questions and examine.
- Your first observations will be important when you make your assessment later on. Do you think child looks sick?

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover).

2.2 Past Health History

[1] Has child ever been in the hospital?

[2] Is child taking any medicines now?

2.3 Other History

[1] Does child have other symptoms such as:

- Fever?
- Fussiness?
- Vomiting or diarrhea?
- Runny nose?

- Sleepiness?
 - Not eating or drinking well?
 - No urine output in last 6 to 8 hours?
- [2]** Is anyone else sick at home?

3. Exam

General approach:

- Put parent's chair next to yours. You can examine young child on parent's lap.
- Have all of your equipment handy.
- Be honest with child: If what you are going to do will hurt, tell him.
- Don't give child a choice about something that must be done. Do not ask: "Can I look in your ears now?" Instead, say: "I am going to look in your ears now."
- Child should be quiet for certain parts of the exam: Check lungs, heart, and abdomen before checking ears, mouth, and hips.

3.1 Do a Screening Physical Exam (p.368)

3.2 Lab Tests. If you still do not know what is making the child sick, do the following lab tests:

- Urine dipstick.
- Hemoglobin.

4. Assessment

4.1 Make a specific assessment and go to that problem section of this manual.

- Use Chart 4.1

4.2 If you cannot make a specific assessment, use Chart 4.2 to decide if child is:

- **Very Sick** (Plan 5.1).
- **Sick** (Plan 5.2).
- **Normal Appearing** (Plan 5.3).

5. Plan

5.1 Plan: Very Sick Child

[1] Report now to your referral doctor. **If you can NOT reach a doctor:**

- Follow this plan until you can.
- Have someone arrange for transport to hospital.

Chart 4.2

ASSESSMENT: HOW SICK IS THE CHILD?

VERY SICK (Plan 5.1):

- Very sick looking.
- Very sleepy; hard to wake up.
- Eyes dull and not looking at things.
- Fever over 106° or under 97°.
- Cold, pale, and sweating.

SICK (Plan 5.2):

- Crying cannot be comforted.
- More sleepy and quiet than normal.
- Poor eye contact; not interested in faces or toys.
- Not interested in what is going on.
- Not running or playing.
- Not eating or drinking.
- Weak, even when examined.

NORMAL APPEARING (Plan 5.3):

- Happy; smiling.
- Alert; interested in what is going on.
- Active, playing.
- Sleeping and eating normally.
- Fighting strongly if does not like exam.
- If he is fussy, becomes happy and active after eating or sleeping.

[2] Special care should include the following:

- Give nothing by mouth.
 - ☐ a very sick child can not suck and swallow well and may choke.
- If child needs fluids to prevent dehydration:
 - ☐ start an I.V. (p.427). Use 5% DEXTROSE AND 0.9% SODIUM CHLORIDE, if available.
 - ☐ run I.V. at "maintenance rate" (p.434).
- Recheck vital signs every hour.

Chart 4.1

Sick Child: Some Assessments and Typical Findings

Assessment	Exam
SHOCK (p.7)	Weak, cold, pale, sweaty. Weak, rapid pulse.
MENINGITIS (p.282)	Soft spot (fontanelle) bulging. Stiff neck; or knees may bend or pull up when neck is bent forward.
DEHYDRATION (Plan 5.1)	Soft spot (fontanelle) sunken. Eyes sunken. Dry mouth.
RESPIRATORY PROBLEM (p.299)	Blueness of tongue or lips (cyanosis). Loud sound when breathing in (stridor). Fast breathing (rate over 60/minute). With each breath the nose opens wider (flaring) and skin between ribs pulls in (retractions). Grunting sound when breathing out. Breath sounds: Crackles or wheezes.
SEVERE EYE INFECTION (p.104)	Swelling and redness around the eye.
SINUS INFECTION (p.299)	Higher fever than common cold. Swollen eye lids. Green or yellow drainage from nose.
STREP THROAT (p.299)	White patches (pus) on tonsils or very red throat. Enlarged, painful lymph nodes in neck.
EAR INFECTION (p.90)	Draining or red eardrum.
BONE OR JOINT INFECTION (p.247)	One arm or leg moves less than the other. Red, warm, and swollen joint. Pain with movement of arm or leg.
HERNIA (Plan: p.67 "Intestinal Obstruction")	Firm lump (mass) in scrotum.
ACUTE ABDOMEN (p.65)	Abdomen very tender to touch.
URINE INFECTION (p.125)	Urine positive for infection (leukocytes or nitrite).
ACUTE FEVER OF UNKNOWN CAUSE (Plan 5.3)	Fever. No abnormal findings on history or exam. Normal urine dipstick.

[3] Transport patient to hospital as soon as possible. While you are waiting to transport,

- Stay with child
- Recheck vital signs every hour
- If high fever, give oral ACETAMINOPHEN (Tylenol®; p.416).

5.2 Plan: Sick Child

[1] Report NOW to your referral doctor.

If you cannot reach a doctor:

- Follow this plan until you can.

[2] Special care should include the following:

- If child looks sick and fever is 103° or more, child may look sick just because of high fever.
 - ☐ give ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ observe child when fever is less than 102°. Decide again if assessment is "sick child".

[3] Consider other assessments as follows:

- *If fever*, some common assessments are:
 - ☐ common cold (URI, p.299).
 - ☐ strep throat (p.299).
 - ☐ gastroenteritis (p.72).
 - ☐ otitis media (p.90).
 - ☐ urine infection (p.125).
- *If pain*, consider the following:
 - ☐ headache (p.267).
 - ☐ abdominal pain (p.63).
 - ☐ arm or leg pain due to bone or joint infection (p.247).
 - ☐ injury (p.237).

[4] Other plan should include the same plan as for sick or normal appearing child (Plan 5.3).

5.3 Plan: General, for Sick or Normal-appearing Child

[1] Report to your referral doctor.

Report NOW if:

- Fever is a serious problem, including the following:
 - ☐ infant under 3 months of age with fever of 101.4° or more.

- ☐ child age 3 months or more with fever over 105°.
- High risk child, including child with history of the following:
 - ☐ hospitalized in intensive care as newborn and is still less than one year.
 - ☐ adrenogenital syndrome (congenital adrenal hyperplasia).
 - ☐ surgery ("shunt") for hydrocephalus.
 - ☐ heart disease.

[2] Patient education should include the following:

- Parents should observe for following danger signs:
 - ☐ high fever (104°).
 - ☐ vomiting.
 - ☐ not drinking.
 - ☐ more sleepiness.
 - ☐ breathing problems.
 - ☐ not interested in people or toys.
- If fever over 103°, give ACETAMINOPHEN (Tylenol®, p.416).

[3] Recheck at these times:

- If child is *sick*, every 6 hours
 - For other children, in one day.
-

MENTAL HEALTH PROBLEMS

MENTAL HEALTH EMERGENCY (Violent/Dangerous Patient)

Use this section if you think a patient is a danger to himself or to others.

- Examples:
 - ☐ suicide attempt.
 - ☐ very angry.
 - ☐ very nervous.
- This section will help you to:
 - ☐ manage the patient.
 - ☐ find out if there is a physical cause for patient's behavior.

1. Begin Emergency Care

As with all emergency care, you need to question, examine, make an assessment, and give emergency care all at once.

1.1 Look around you and the patient, and be in charge of the emergency care.

- Keep a crowd away.
- Be safe. Look for dangers to yourself, to the patient, and to others.

- Try to take patient away from the place where the problem is.
 - ☐ remove people and things that upset the patient.
- If there is a chance that patient may be violent:
 - ☐ stand or sit a safe distance away.
 - ☐ do not block the door to the room.
 - ☐ contact your local police officer.
- If patient has a weapon or is dangerous:
 - ☐ get everyone, including yourself, out of patient's range.
 - ☐ contact your local police officer and let him take over as soon as possible.

1.2 Get help from others as soon as possible.

- If patient seems to trust someone, let that person stay.
- Keep other helpers nearby, so they can come quickly if you call.

1.3 Calm the patient as part of your plan. If patient is violent, you will need to control him before you do much more.

- Talk quietly and slowly.
 - ☐ most patients can be calmed down in this way.
- Often it helps to offer food or drink.
- If patient has cuts or bruises, sometimes paying attention to those first may help.
- Try not to use force.

1.4 Restrain only if you must. Plan ahead, and do it well.

- Get help as soon as possible from your local police officer.
- Get at least 4 strong people before you start.
- Have soft restraints handy (Examples: Kling gauze or triangle bandages).
- Plan where to tie restraints. Usually patient is tied down on his side, in case he vomits. Place restraints around:
 - ☐ each wrist,
 - ☐ each ankle,
 - ☐ chest,
 - ☐ waist,
 - ☐ and knees.
- Check circulation (pulse and color) of arms and legs.
- Do NOT let patient talk you into taking the restraints off.
 - ☐ remove them when *you are sure* the danger is over.

2. History

Find out as quickly as possible from friends or relatives:

2.1 What is the problem?

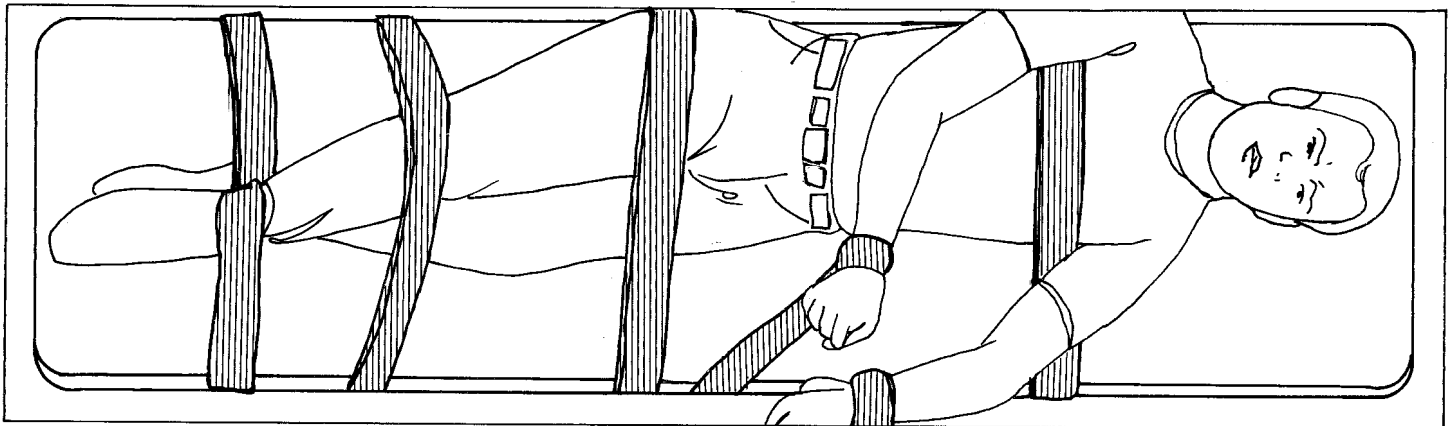
2.2 When did it start?

2.3 What is going on in patient's life right now?

- Family and home?
- Work?
- Medical problems, medicines?
- Alcohol or illegal ("street") drugs?

2.4 What is patient's past health history?

- Has he had mental illness?



3. Exam

Reassure patient that it is important for you to check him. Explain what you are doing as you examine.

3.1 Vital signs: T, P, R, BP.

3.2 Do a body survey (p.9).

3.3 Mental status (mind). *If patient is confused or if he says or does something strange*, remember it, and do a more complete mental status exam if possible (p.410), including the following:

- Orientation. Ask patient:
 - ☐ "What is your name?"
 - ☐ "Where are you now?"
 - ☐ "What is the date?"
- Memory: Can patient remember things that happened in the past and recently?

4. Assessment

4.1 Your assessment should be **Mental health emergency** if you think patient is a danger to himself or to others.

4.2 Decide if you think there is a physical cause for patient's mental problem. Use chart 4.2.

4.3 If possible, make a more specific assessment of the mental health emergency. For example:

- Mental health emergency:
 - ☐ suicide attempt.
 - ☐ psychosis out of control.
- Mental health emergency caused by physical illness:
 - ☐ drunk and angry.
 - ☐ alcohol withdrawal.
 - ☐ head injury.
 - ☐ meningitis.

5. Plan

5.1 First, treat serious physical problems. Follow guidelines in this manual. Examples:

- Head injury, p.259.
- Alcohol withdrawal or other drug abuse, p.261.
- Medicine overdose, p.11.
- Slashed wrists, p.339 ("Wounds").

5.2 Continue to calm the patient.

Often a patient who is upset will be angry with you or even afraid of you, especially if drugs like alcohol are involved.

- Try to calm the patient.
- Talk quietly and slowly if patient is upset.
- Take your time.
- Do not argue with patient or tell him how he should feel.

Chart 4.2

Signs that a Mental Health Emergency is Caused by Physical Illness

Exam	What You May Find	What May Be Wrong
TEMPERATURE	Fever.	Severe infection like meningitis; other brain problem.
PULSE	Slow.	Brain injury.
	Weak, fast.	Shock; thyroid disease.
RESPIRATIONS	Not breathing much.	Stroke; brain injury.
	Deep fast breathing.	Diabetes out of control.
BLOOD PRESSURE	Low	Shock.
	Very high.	High blood pressure emergency; stroke; other brain problem.
GENERAL APPEARANCE	Seizure (convulsion).	Alcohol withdrawal; brain injury; brain infection.
HEAD	Signs of head injury.	Brain injury.
EYES	Eye movement abnormal; pupil size not equal; no reaction to light.	Stroke, brain injury, or other brain problem.
NECK	Stiff.	Meningitis, other brain problem
	Enlarged thyroid.	Thyroid disease.
ARMS AND LEGS	Shaky hands.	Low body temperature; alcohol withdrawal; insulin reaction; thyroid disease.
MENTAL STATUS	Problems with orientation, memory, intelligence, judgment. May see things that are not real.	Alcohol or other drug use; other brain problem.
OTHER NERVOUS SYSTEM EXAM	Abnormal feeling or movement; weakness of certain muscles.	Brain or spinal cord problem, such as stroke or tumor.

5.3 Be understanding and honest.

Most disturbed patients will know if you are being honest.

- Invite patient to sit down with you. Doing that may help a lot.
- Use patient's name as you talk with him.
- Reassure patient.
- If patient tells you psychotic ("crazy") things, do not agree or disagree.
- Let patient know that:
 - ☐ you understand how he feels.
 - ☐ you would like to help him.
 - ☐ the crisis will probably end quickly, and he'll be OK.
- Do NOT threaten patient.
- Only make a promise if you can keep it.

5.4 Allow patient to talk. A mental health emergency is often the patient's cry for help.

- Help patient to talk about his feelings or even to yell if he needs to.
- Listen carefully. Find out what is bothering patient.
 - ☐ try not to interrupt, especially if patient cries or shows other emotions.
- Encourage patient to say more:
 - ☐ nod your head.
 - ☐ ask questions that need more than a "yes" or "no" answer.
- If patient can not say exactly what the problem is, have him list the things that make him happy and unhappy.
 - ☐ patient can then decide which things upset him the most.
- Encourage patient to talk about his ideas for solving the problems.

5.5 Have someone stay with patient until the emergency is over.

- This will help to calm the patient.
- The alcoholic can be watched as he sobers up.
- The drug abuser can talk with a friend until the drug reaction wears off.
- A patient who tried to kill himself should be with someone until both you and your referral doctor think the emergency is over.

5.6 Report to your referral doctor. **If you can not reach a doctor**, follow this plan until you can.

5.7 Decide if transport is needed.

Use the following information:

- Most mental health emergencies can be managed in the village.
- Get advice from others. Examples:
 - ☐ local counselor.
 - ☐ mental health center in your region.
 - ☐ ANMC. Ask for the mental health worker on call.
- A mentally ill patient can be committed to a hospital for a mental health problem (p.203) if:
 - ☐ he is likely to cause serious harm to himself or to others.
 - ☐ this is a problem that is NOT related to:
 - alcohol, or
 - other drug abuse, or
 - mental retardation.
- If you think patient needs emergency care at the hospital, arrange for transport.

5.8 Consider giving an emergency drug to the patient.

- You may decide to use a drug to restrain a patient. ONLY do so if all of the following are true:
 - ☐ mental patient stays very upset and violent.
 - ☐ patient does NOT have some physical cause for his problem.
 - ☐ you can NOT reach a doctor.
 - ☐ the doctor has signed for you to treat this problem when you can NOT reach him.
 - ☐ you understand the drug and its side effects.
- For an older child or adult, give one of the following:

I.M. shot of **HALOPERIDOL** (Haldol®).

- **Dose: 5 mg. I.M.**
- Repeat every ½ hour until patient is calm.
 - ☐ if patient must be transported by small plane, repeat until patient is sleepy. This may take three hours (six shots).
- Be prepared to treat a severe muscle spasm reaction (dystonic reaction) with 50 mg. of DIPHENHYDRAMINE (Benadryl®) I.M. or by mouth.

I.M. shot of **CHLORPROMAZINE** (Thorazine®).

- **Dose: 50 mg. I.M.**
- Check to be sure patient's BP is not getting lower before giving other doses.
- If needed, give 50 mg. I.M. every ½ hour until patient is under control.
- Give the medicine by mouth if you do not have it for injection.

COMMITMENT TO A HOSPITAL FOR A MENTAL HEALTH PROBLEM

Most patients who need to go into a mental hospital will agree to go when you suggest it (voluntary admission). A voluntary admission is arranged through:

- Your referral doctor.
- Mental health center in your region.
- API (Alaska Psychiatric Institute).

Begin here if you think a patient needs to go into a mental hospital (API or other "Designated Treatment Facility") and he refuses. He may need to be committed (sent against his will).

- If patient is violent:
 - ☐ contact your local police officer for help.
 - ☐ go to p.201, "Mental Health Emergency."

1. Decide if Mentally Ill Patient Can be Committed

1.1 Yes, patient CAN be committed if he is likely to cause serious harm to himself or to others.

- The harm to himself can even be from neglect (gravely disabled).
Examples:
 - ☐ staying outside in very cold weather without enough clothes on.
 - ☐ not eating.
- This **MUST** be a mental health problem that is **NOT** related to:
 - ☐ alcohol, or
 - ☐ other drug abuse, or
 - ☐ mental retardation.

1.2 No, patient can NOT be committed if he is NOT dangerous. In this case, report to your referral doctor. While you are waiting to report, do the following:

- Reassure patient.
- Help patient to talk about his feelings.
 - ☐ follow general guidelines for talking and counseling (p.219).
- Have someone stay with patient if needed.
- Recheck in one day, sooner if you think this is a serious problem or if patient is getting worse.

2. How to Commit the Patient

2.1 Report to your local police officer or an Alaska State Trooper. It is the officer's job to arrange for a commitment.

If you can not reach an officer, report to one of the following:

- Your referral doctor.
- Mental health center in your region.
- API (Alaska Psychiatric Institute).
 - ☐ you can call API collect, if needed (561-1633). Tell the operator to say that you are a CHA/P.

2.2 If needed, any adult *who sees the patient's harmful behavior* can request a judge to commit the patient. That person should do the following:

[1] Fill out a commitment form, or (if you do not have a commitment form) write the same information on any piece of paper. Be specific. In order for patient to be committed legally, the paper must tell:

- What the patient is doing or saying that is likely to cause serious harm to himself or to others. For example:
 - ☐ patient raised his fists and threatened others.
 - ☐ patient took an overdose of aspirin in a suicide attempt.
 - ☐ patient said, "The world will be better off without me. I want to kill myself."
- Names of people who have *seen* the patient act this way.

[2] Contact the nearest magistrate. The magistrate will contact a judge, get a court order, and patient can be transported.

If you can not reach the magistrate, go to p.201, "Mental Health

Emergency." Treat patient using those guidelines until you can reach your referral doctor or the magistrate.

[3] Send the commitment paper along with the escort when patient leaves, and include other information that may be helpful to the hospital, such as:

- As much information about patient's behavior as possible.
- Past health history:
 - ☐ illnesses, including problems of the nervous system.
 - ☐ alcohol or other drug abuse.
 - ☐ medicine the patient should be taking.
- Names of relatives that could be contacted for more information.
 - ☐ include phone numbers, if possible.

3. After Commitment to a Hospital for a Mental Health Problem

3.1 The hospital will also decide if patient is likely to cause serious harm to himself or to others (the commitment paper is important).

- If the hospital decides patient **IS** likely to cause harm, patient may be committed for a longer period of time.
- If the hospital decides the patient is **NOT** committable, the patient will be discharged and will probably return home soon afterwards.

3.2 See "Follow-up Care" of a Mental Health Patient, p.216.

MENTAL HEALTH PROBLEM: ALCOHOL OR OTHER DRUG ABUSE

Begin here if patient drinks alcohol or takes other drugs and as a result has a problem with other people, work, or health.

Do NOT begin here for the following:

- If patient is violent:
 - ☐ contact your local police officer for help.
 - ☐ go to p.201, "Mental Health Emergency."
 - ☐ for treatment of alcoholism, it may also be possible for a patient to be sent against his will to a treatment center. If needed, ask your referral doctor.
- If patient has a physical problem **NOW** that is caused by alcohol or other drug abuse (drunk, alcohol withdrawal, "bad trip"), go to p.261, "Acute Drug Abuse Problems."

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Ask about patient's drinking and other drug abuse. Try not to make patient feel guilty.

- Ask about patient's drinking:
 - ☐ what kind of alcohol does patient usually drink (whiskey, beer, wine, other)?
 - ☐ when does patient usually drink? How often?
 - ☐ does patient usually drink alone or with other people?
 - ☐ what amount (how much) does patient usually drink each time?

- Does patient take any other drugs, including illegal ("street") drugs?
 - ☐ ask about:
 - marijuana?
 - cocaine?
 - speed?
 - other drugs or "substances"?
 - ☐ if so, find out:
 - what does patient take?
 - when? How often?
 - what amount (how much)?
- Has the way patient drinks or takes drugs changed recently?
- Has patient tried to stop or cut down?
 - ☐ if so, how did patient do?
- When was the last time patient had a drink or took drugs?

[2] What does patient think would help?

1.2 Past Health History

[1] Illnesses:

- Mental health problems, such as:
 - ☐ feeling very nervous (anxious)?
 - ☐ having lots of worries, stress?
 - ☐ feeling angry?
 - ☐ feeling sad?

[2] Medicines:

- What medicines is patient taking now?

1.3 Other History

[1] Does patient have other complaints, such as the following, often related to alcoholism or other drug abuse:

- Blackouts (Can not remember what patient did the night or day before)?
- Accidents, fights, or arguments related to drinking or taking drugs?
- Problems with job or school, home, friends, or family?
- Feeling sad, change in appetite, trouble sleeping, or other signs of depression (p.209)?
- Feeling guilty or sorry for self?
- Apologizing, making excuses?
- Anger and resentment?
- Signs of alcohol withdrawal symptoms such as:
 - ☐ shaky hands?
 - ☐ nervousness (anxiety) and fear?
 - ☐ hallucinations (seeing things that are not real)?

[2] Does any close relative have mental illness?

[3] Has patient been in trouble with the law?

[4] Get more information from patient's family.

- Does what the family says agree with what patient says?
- Do they find hidden bottles of alcohol or other drugs?
 - ☐ if so, what does family do?
- What have family members or others in town been doing about this problem?
 - ☐ offering help?
 - ☐ ignoring the problem?
 - ☐ lecturing or criticizing patient?
 - ☐ drinking or taking drugs along with patient?

2. Exam

2.1 When you first examine this patient, **do a screening physical exam (p.368).**

2.2 Examine parts of the body in more detail, if needed, depending on patient's complaints.

2.3 Lab tests:

- Hemoglobin.
- Urine dipstick.

3. Assessment

3.1 Your assessment should be **Alcohol problem or other drug abuse**

if patient drinks alcohol or takes other drugs and as a result has a problem with other people, work, or health.

4. Plan

Remember that a patient with an alcohol or other drug problem responds well to being treated just like any patient with a serious problem.

- Work with this patient in a caring way.
- Let patient know that you are interested in working with him.

4.1 Face the problem. Help patient to see that alcohol or other drug abuse is harming him. He has a problem.

- This is the hardest and the most important part of the plan.

- It may be easier for a patient to understand this after having a problem related to drinking.

Examples:

- ☐ accident.
- ☐ family trouble.

- Do not feel like you have failed if patient does not agree.

4.2 Suggest: stop the drinking or other drug abuse.

- Once patient agrees that he has a problem, encourage him to stop drinking or abusing drugs completely in order to get better.
- It is hard to stop.
- Stopping may mean changing friends.

4.3 Other patient education should include the following:

- Alcoholic patients crave alcohol for at least 2-3 weeks after stopping drinking.
 - ☐ tell patient, family and friends, so they know that support is needed.
 - ☐ tell patient that medicine is available, if needed, to help him over the "shakes."
- Diet: Patient should eat a well-balanced diet, with food from the four food groups every day (p.444).

4.4 Counseling suggestions include the following:

- Do NOT try to counsel when patient is drunk.
 - ☐ it will help patient if you see him when he is drunk, but you do not need to spend a long time with him.
 - ☐ see patient when he is sober. Make an appointment.
- Accept patient as a sick person.
 - ☐ still, it is important to let patient know the damage that alcohol or other drug abuse is doing.
- Follow general guidelines for talking and counseling (p.219):
 - ☐ tell patient that you will keep his problems confidential.
 - ☐ help patient to talk about feelings.
 - ☐ do NOT judge, scold, or lecture.
 - ☐ try to help patient to feel better about himself.
 - ☐ recognize patient's good points.

- Mention that other counseling is available, too. Encourage patient to talk with someone regularly.

Examples:

- ☐ minister.
- ☐ village alcohol counselor.
- ☐ a group of alcoholics as with Alcoholics Anonymous (AA).

4.5 Other plan should include the following:

- As with every patient, be sure to check out and treat physical complaints that patient has.
- Warning: If patient also seems depressed, he is at high risk to commit suicide. Follow the plan for this on p.209.
- If patient has been drinking heavily for a while, give vitamins to try to make up for poor nutrition.

Give **VITAMINS with FOLIC ACID** (Prenatal Vitamins).

- **Dose: One now and once a day for at least 7 days.**

4.6 Recheck as follows:

- Recheck on your next clinic day, sooner if needed.
- *If patient is getting shaky*, you may need to treat for alcohol or other drug withdrawal (p.261, "Acute Drug Abuse Problems").
- If patient is doing OK, make an appointment for patient to come back for a recheck so you can see how patient is doing.
- Help patient to set goals for getting better. Decide along the way how patient's progress is.

4.7 Report to your referral doctor, who may suggest other treatment.

4.8 Talk with the family. If a patient has an alcohol or other drug problem, the family has problems, too.

- Give family members a chance to talk about their own problems.
- Help family members to see that their problems may be part of the reason why patient drinks.

- Explain that alcoholism is like a disease. Teach about it.
- It often helps family members to get together with others who have similar problems, as with an Al-Anon group.

Alcohol Problem: General Information

Understand Who Has An Alcohol Problem

A person has an alcohol problem (is an alcoholic) if his drinking causes him a problem with other people, work, or health.

- Alcoholism can begin at all ages in all kinds of people.
- It is NOT true that an alcoholic is only someone who drinks hard liquor, drinks in the daytime, or gets the "shakes" after stopping. Others can be alcoholics, too, and need to face the problem.
- Just as alcohol is a problem for the person who gets the "shakes" or DTs, alcohol is also a problem for the person who goes on a "drinking binge" and fights, injures himself, shoots someone, freezes to death, or kills himself.
 - ☐ alcohol abuse is a leading cause of suicide.

Be Suspicious, and Make Assessment

If a patient has alcohol on his breath at the time of the clinic visit, think of alcoholism.

Even a small problem related to drinking is a sign of an alcoholic.

Recognize possible chief complaints of the alcoholic:

- Injury: cut, bruise, burn, broken bone, other.
- Infection: tooth abscess, chest cold, skin infection.
- Depression (sadness).
- Easy bruising, or other bleeding problem.
- Abdominal pain.
- Weight loss.
- Edema (swelling of skin).

Stages of Alcoholism

Early stages:

- Drinks often, to get rid of stress, tension.
- Drinks in larger amounts.
- Gulps drinks, sneaks drinks.
- Promises to quit drinking, but does not keep promises.
- Becomes angry, does things that you can not predict.
- Forgets things, has "blackouts".

Middle stages:

- Drinks even in the morning.
- Drinks alone.
- Makes excuses, denies, or tries to hide the drinking.
- Needs a drink to get along, but no longer feels good when drinking.
- Has problems on the job from drinking.

Late stages:

- Alcohol becomes the most important thing in patient's life.
- Patient protects the alcohol.
- Feels isolated from family and friends.
- Is tense, irritable, angry.
- Has anxiety, nervousness.
- Has hallucinations, shakes, poor health.

Treatment

In addition to the plan listed above, treatment may include:

- **DISULFIRAM (Antabuse®).** This is a medicine that is taken every day by a patient who wants to stop drinking, but finds it hard to say "No." The medicine must be prescribed by a doctor, and patient must be rechecked often. While taking this medicine:
 - ☐ if patient drinks alcohol, he gets sick with a headache, nausea and vomiting.
 - ☐ patient is usually helped the most if he comes to clinic every day or every few days for the medicine.
- If patient can not stop drinking he may need to be referred to a place (residential treatment center) where he can live for a time away from alcohol and drinking friends/family and get counseling.

ANXIETY (Nervousness)

Anxiety (being anxious, nervous, up tight, jittery) is a normal part of living.

Begin here if patient seems to have anxiety that is severe or long lasting.

- If patient feels like he can not get enough air in, but you see that he is breathing fast, go to "Hyperventilation," at the end of this section.

1. History

Let patient talk about his problems. As you ask questions and listen, be calm and patient.

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** What emotional complaints does patient have:
- Having lots of worries, stress?
 - Feeling afraid?
 - Feeling very nervous (anxious), tense, or irritable?
 - Feeling sad?
 - Trouble sleeping?
 - Trouble making a decision?
 - A feeling that everything is going wrong?
 - Feeling angry, not having much patience?
 - Having thoughts that keep coming back to mind, even though patient tries to think about something else?
- [2]** What does patient think would help?
- [3]** What is happening in the patient's life right now?
- Is there any change, stress, or conflict?
 - ☐ are there problems with job or school, home, friends, or family?

1.2 Past Health History

- [1]** Illnesses:
- Thyroid trouble?
 - Mental health problems?
- [2]** Medicines:
- What medicines is patient taking now?

1.3 Other History

- [1]** Does patient have other complaints, such as:
- Sweating?
 - Headache?
 - Feeling dizzy?
 - Shortness of breath?
 - Abnormal heartbeat (heart pounding or racing, "palpitations")?
 - Diarrhea?
 - Tingling or cramping feelings in hands or feet?
 - Other aches and pains?
- [2]** Does any close relative have mental illness?
- [3]** How often does patient have caffeine (coffee, regular tea, cola drinks, chocolate)?
- [4]** Does patient drink alcohol or take illegal ("street") drugs? If so:
- What?
 - When?
 - What amount (how much)?
- [5]** Has patient been in trouble with the law?

2. Exam

Be patient, and do the exam in a calm, supportive way. This will reassure patient that you take the complaints seriously.

- 2.1** When you first examine patient with a mental health problem, **do a screening physical exam (p.368).**
- 2.2** Examine parts of the body in more detail, if needed, depending on patient's complaints.

3. Assessment

- 3.1** Your assessment should be **Anxiety** if patient has worries, fears, and nervousness that bother him a lot or are long lasting.
- If patient does not know what

caused the anxiety, this can worry patient even more.

3.2 Include in your assessment any other problems you have found.

- Anxiety may add to or even cause physical complaints such as:
 - ☐ sweating.
 - ☐ headache.
 - ☐ shortness of breath.
 - ☐ nausea.
 - ☐ abdominal pain.
 - ☐ painful menstrual periods.
 - ☐ hands shaking.
- If you think that patient also seems depressed, write down that assessment too.

4. Plan

4.1 If severe anxiety, report to your referral doctor.

If you can not reach the doctor, you think an adult needs medicine, and the doctor has signed for you to give medicine for severe anxiety when you can not reach him:

Give an adult medicine to relax him.

- Give one of the following by mouth:
 - ☐ **DIAZEPAM** (Valium®) 5 mg.
 - ☐ **CHLORDIAZEPOXIDE** (Librium®) 25 mg.
 - ☐ or, **PHENOBARBITAL** 30 mg.
- Patient could repeat the medicine in 6 hours, if needed for severe anxiety.
- Dispense only 1-2 tablets. These drugs are often abused.

4.2 Treat other problems using the guidelines in this manual.

- Explain to patient that some physical complaints may be caused by or made worse by nervousness.

4.3 Special care. Unless patient's anxiety continues to be severe, he can often get the best care in the village. Talking will help patient to reduce his own stress.

- Help patient to talk about his feelings, problems, worries, and fears. Follow general guidelines for talking and counseling (p.219).

- ☐ tell patient that you will keep his problems confidential.
- ☐ listen carefully.
- ☐ try not to judge or scold.
- Encourage patient to talk about his problems regularly with others:
 - ☐ husband or wife.
 - ☐ friend.
 - ☐ minister.
 - ☐ someone else patient trusts.
- When the time is right, mention ways of reducing stress (p.221), including:
 - ☐ avoid caffeine (coffee, regular tea, cola drinks, chocolate; p.446).
 - ☐ exercise regularly.
 - ☐ reduce stress with:
 - breathing exercises.
 - stretching.
 - working with the hands.

4.4 Recheck as follows:

- Make a return appointment for patient to talk with you privately. See patient as often as you and patient think is needed.
- Report to your referral doctor if:
 - ☐ patient does not improve after two or three weeks
 - ☐ patient is getting worse.

FEAR AND SHORTNESS OF BREATH FROM HYPERVENTILATION

1. Assessment

1.1 Your assessment should be Hyperventilation

if patient has the following:

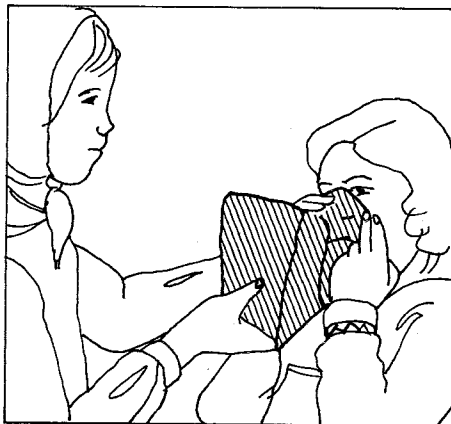
- May feel that he can not breathe in enough air, even though his breathing looks OK or looks deep and fast.
- May feel faint, light-headed.
- May have a strange tingling feeling in the fingers, toes, or lips. Next, patient may get muscle twitches or cramps in the hands and feet.
- Usually patient looks scared.

2. Plan

Hyperventilation is not life-threatening, but patient needs immediate treatment to make it better.

2.1 Special care should include the following:

- Reassure patient. Talk calmly and with confidence.
- Have patient breathe into a paper bag held tightly over the mouth and nose.
 - ☐ patient should rebreathe the same air until he is feeling better, usually about 5-10 minutes.
 - ☐ patient should NOT use a plastic bag, or he will not get any oxygen.



2.2 Patient education. When patient is feeling better, explain that the problem was caused by anxiety (nervousness).

- The anxiety caused fast breathing.
- Patient breathed out too much carbon dioxide (CO₂), which brought on these symptoms.
- The paper bag treatment gets more carbon dioxide back into the blood.
- If the symptoms come back, patient should breathe into a paper bag again.

2.3 Other plan should include the following:

- When the time is right, it may help to encourage this patient to talk about feelings, problems, worries, and fears. Follow the same plan as for anxiety, in this section.

MOOD PROBLEMS: DEPRESSION

Sadness is common when a person is sick, loses a loved one, or has other problems in life. People learn to get over this sadness.

Depression is severe sadness or unhappiness. Patient does not care about things he used to enjoy. This problem often lasts for a long time. It is very common.

Begin here if you suspect depression.

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1] Find out about patient's worries.
- [2] What is happening in the patient's life right now?
 - Is there any change, stress, or conflict?
 - ☐ recent loss of a loved one?
 - ☐ problems with job or school, home, friends, or family?
- [3] Does patient have any of the following problems (often associated with depression):
 - Feeling sad?
 - Loss of appetite or change in appetite?
 - Weight loss or weight gain?
 - Constipation?
 - Feeling tired much of the time?
 - Trouble making a decision?
 - Feeling guilty?
 - Trouble sleeping? If so, in what way:
 - ☐ trouble going to sleep?
 - ☐ trouble staying asleep?
 - Loss of interest in the things that patient used to enjoy, including sex?
 - If a child, ask parents if they have seen any changes in the last few months.

- ☐ is child quieter?
- ☐ does child spend more time alone?
- ☐ has there been a change in school performance?

[4] What does patient think would help?

[5] It is important to ask patient about suicide thoughts.

- Ask: "Have you felt so bad you thought of killing yourself?"
- If patient has thought of killing himself, ask, "Have you thought of *how* or *when* you would do it?"
 - ☐ has patient thought of a way to do it? Examples: Shooting, taking pills.
 - ☐ has patient made a plan? Examples: Buying a gun, deciding which pills to take.
 - ☐ has patient thought *when* he might do it?

1.2 Past Health History

[1] Illnesses:

- Mental health problems?

[2] Medicines:

- What medicines is patient taking now?

1.3 Other History

[1] Does patient have other complaints, such as:

- Headache?
- Other aches and pains?

[2] Does any close relative have mental illness?

- Severe depressions?
- Suicide?
- Times when the relative seemed too happy, too busy, too talkative? Maybe those times were followed by depression?

- Alcohol problems?
- Other mental problems?

[3] Does patient drink alcohol or take illegal ("street") drugs? If so:

- What?
- When?
- What amount (how much)?

[4] Has patient been in trouble with the law?

2. Exam

2.1 When you first examine patient with a mental health problem, **do a screening physical exam (p.368).**

2.2 Examine parts of the body in more detail, if needed, depending on patient's complaints.

3. Assessment

3.1 Your assessment should be **Depression** if you think patient is especially sad or unhappy. As patient's depression gets worse, he may have more of the problems noted in chart 3.1.

3.2 Decide if you think patient with depression is at high risk to commit suicide (p.218). Especially note the following:

- Any *child* with depression.
- A depressed teenager, young adult.
- A specific suicide plan.
- Patient tried to commit suicide before.
- Use of alcohol or other drugs (can make patient feel even more depressed).
- Recent loss or separation from job/money/loved ones.
- Other health problems.
- A very depressed patient.
- Family history of suicide attempts.
- A single adult, never married.

3.3 Include in your assessment if patient's depression is:

- **With high risk to commit suicide** (Plan 4.1).
- **With lower risk to commit suicide** (Plan 4.2).

4. Plan

4.1 Plan: Depression with High Risk to Commit Suicide

[1] Report to your referral doctor as soon as possible.

If you can not reach the doctor,

- Follow this plan until you can.

[2] Special care should include the following:

- Help patient to talk about his feelings, problems, worries. Follow

Chart 3.1

DEPRESSION: TYPICAL FINDINGS

History:

- Loss of interest:
 - ☐ in work.
 - ☐ in being with people.
 - ☐ in having sex.
 - ☐ in doing other things he used to enjoy.
- Loss of appetite or change in appetite.
- Weight loss or weight gain.
- Alcohol or other drug use.
- Tired a lot.
- Some kind of sleep problem:
 - ☐ trouble going to sleep, or
 - ☐ wakes up early in the morning. May find it hard to go back to sleep again.
- Constipation.
- Many physical complaints, such as muscle aches and pains.
- Trouble concentrating or making a decision.
- Feeling that he is not a very good person.
- Feeling guilty.
- Feeling that there is no hope.
- Suicide thoughts.

Exam:

- General appearance:
 - ☐ sad expression.
 - ☐ little interest in personal appearance.
 - ☐ stooped over posture.
 - ☐ crying.
 - ☐ slow speech and movement.
 - ☐ or, in some patients:
 - may act too happy, trying to cover up sadness.
 - may be anxious (nervous).
- Nervous system exam is normal otherwise.

general guidelines for talking and counseling (p.219).

- ☐ listen calmly.
- ☐ accept patient's reasons for feeling bad, even if the reasons do not seem very good to you.
- ☐ try not to criticize or tell patient what to do, like saying "Snap out of it"

- Tell patient that your assessment is depression and that help is available.
- Ask patient to make a commitment to you NOT to do anything to hurt himself or herself.
 - ☐ will patient make that commitment?
- Call for someone who patient trusts. That person should:
 - ☐ encourage patient to talk about problems and feelings.
 - ☐ make sure that someone who cares stays with patient.
 - ☐ remove guns, knives, medicines, and other dangerous things, so that patient can not get to them easily.
- If needed, get help from others in town, such as minister or police officer.

[3] Other plan depends on your referral doctor's assessment.

- This patient may need to go to the hospital with a good escort.

[4] Recheck in one day, sooner if needed.

- Recheck often until you feel that patient is doing well and his thoughts of suicide are gone.

4.2 Plan: Depression with Lower Risk to Commit Suicide

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Treat other problems using the guidelines in this manual.

- Explain to patient that some physical complaints may be caused by or made worse by depression.
- Reassure patient if physical exam was normal.
- If needed, treat minor aches and pains with ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ only give out small amounts, to avoid problems with overdose.

[3] Special care should include the following:

- **Counseling is the main treatment.** Help patient to talk

about his feelings, problems, worries. Follow general guidelines for talking and counseling (p.219).

- ☐ listen calmly.
- ☐ accept patient's reasons for feeling bad, even if the reasons do not seem very good to you.
- ☐ try not to criticize or tell patient what to do, like saying "Snap out of it."
- Tell patient that your assessment is depression.
 - ☐ at first, patient may not agree with you or may even get angry at you. Do not take it personally.
 - ☐ it may take a few visits before patient agrees he is depressed.
- Tell patient that you will discuss his problem with the doctor.
- Ask patient to make a commitment to you NOT to do anything to hurt himself or herself.
 - ☐ will patient make that commitment?

[4] Other plan depends on your referral doctor's assessment.

- The doctor may want to see the patient and start him on antidepressant medicine.
- The doctor may think that patient needs treatment in the hospital:
 - ☐ if patient is thinking of killing himself.
 - ☐ if the depression is severe.

[5] Recheck on your next clinic day, sooner if needed.

Mood Problems: General Information

Most patients will not come to you and complain about a mood problem. You must make that assessment yourself.

Look for Depression

A patient with depression may not know that he is depressed. You must look for depression in certain patients.

Many times, a person with depression will be a patient who:

- Comes to you for a lot of clinic visits.
- Complains a lot.
- Has many aches and pains.
- Is nervous.

A teenager may show depression by making trouble or taking drugs.

You may see depression in patient's face and in the way he acts. You may hear depression in what he says. For example, a depressed patient may complain:

- "I feel terrible."
- "I feel hopeless."
- "I don't know what to do."
- "I feel unhappy all the time."
- "I'm getting old and ugly."
- "I cry all the time"
- "I'm a failure. I've let everyone down."

If you suspect depression, be kind to patient:

- Use this manual to ask important questions and make the assessment.
- Remember that the main treatment is helping patient to talk about problems and feelings.

Understand Antidepressant Medicine

Antidepressant (against depression) medicine can help some depressed patients in a remarkable way.

Examples:

- AMITRIPTYLINE (Elavil®)
- IMIPRAMINE (Tofranil®)
- DESIPRAMINE (Norpramin®)
- DOXEPIN (Sinequan®)
- AMOXAPINE (Asendin®)
- MAPROTILINE (Ludiomil®)
- TRAZODONE (Desyre®)

This medicine often helps depression when the patient:

- Can not think of what caused the depression.
- Has a depression that lasts for a long time.
- Wakes up too early in the morning.
- Has a bad appetite.
- Has weight loss or weight gain.
- Has constipation.

This medicine often does NOT help depression when the patient:

- Can think of what caused the depression.
- Has a depression that lasts a short time.

- Has trouble falling asleep.
- Always acts this way (In other words, this is patient's personality).

ANMC Psychiatry department recommends the following:

- A patient should probably see the doctor before starting this strong medicine.
- Avoid giving the patient more than a one week supply, at least until you feel certain the patient will not harm himself.
 - ☐ antidepressants can be dangerous if taken as an overdose.
 - ☐ having the patient come weekly for medicine will give you a better chance to talk regularly.

Recognize Another Mood Problem: Mania

Although depression is the most common mood problem, a person may have the opposite of depression: mania. This person's mood is often good, and he is full of energy.

It is normal for most people to get in a "good mood." People who know a patient with mania say that patient's good mood is *more* than normal.

A patient with mania may also have:

- A lot of activity:
 - ☐ with friends.
 - ☐ at work.
 - ☐ or sexually.
- A change in talking:
 - ☐ talking more than usual.
 - ☐ or, talking fast and jumping quickly from one idea to the next.
- Feelings that he is *very* important.
- Little need for sleep.
- Family history of the same problem.
- Times of depression mixed in with times of mania (called manic-depressive illness).

It is important to recognize and report this kind of patient. Patient can be helped by:

- counseling.
- LITHIUM medicine.

PERSONALITY PROBLEM

Each person has his or her own personality. We get to know what people "are like."

A patient may have a personality that causes him and others problems. This patient has a type of mental illness: personality problem (personality disorder).

Begin here if you think the patient has a personality problem.

1. Exam

1.1 When you first examine patient with a mental health problem, **do a screening physical exam (p.368).**

1.2 Examine parts of the body in more detail, if needed, depending on patient's complaints.

2. Assessment

2.1 Recognize the kind of patient with a personality problem:

- When patient comes to clinic, his personality may make him hard to work with.
- Patient can not change the way he is very much because he has acted that way through most of his life.
 - ☐ usually you can make the assessment of personality problem by the time patient is a teenager.
- Patient may try many ways to get what he wants. For example, patient may demand:
 - ☐ after hours home visits.
 - ☐ medicines without a doctor's OK.
 - ☐ paid transportation to the hospital for minor problems.
- Patient may blame troubles on family, bad luck, "the system." Patient usually does not see that he has a personality problem.

- Patient is NOT psychotic (p.212), but patient *does* have:
 - ☐ problems getting along with others.
 - or—
 - ☐ feelings of anxiety (nervousness).

3. Plan

Remember that it is hard for this patient to change. He may not want to change. Use this plan to:

- Help *you* get along with this patient.
- Help patient work on his problems.

3.1 Special care should include the following:

- Follow general guidelines for talking and counseling (p.219).
 - ☐ help patient to talk about feelings.
 - ☐ try not to ask the question "Why?" If you must know why, ask "What is your reason for..."
- Accept patient as he is, the good as well as the bad.
- Be calm and understanding, but be firm about the way things are done.

3.2 Other plan. This patient can make *you* feel bad. If you are having trouble getting along with this patient, do the following:

- Talk with a good listener for advice and support. For example:
 - ☐ referral doctor.
 - ☐ social worker.
 - ☐ minister.
- If needed, follow other guidelines for "When YOU (CHA/P) have a problem," p.220.

Kinds of Personality Problems: General Information

Understand that a personality problem can range from mild to severe.

- It can just be a trait (what the person is like).
- It can be severe enough to control the person's life.

People with personality problems can be put into three general groups.

- Do not try to memorize each kind of personality problem.

- Avoid writing specific terms on patient's chart. Doing so may "label" patient in a negative way.

People who seem "odd," strange.

Examples:

- The (paranoid) person who is suspicious of other people, even though he/she has no reason to be.
- The (schizoid) person who does not have warm, tender feelings for others.
- The (schizotypal) person who has strange thoughts (may include magic) and strange behavior, but is not psychotic.

People who seem emotional and dramatic. These people may seem as if they are acting on a stage. It is often difficult to know just how these people will act. Examples:

- The (histrionic) person who is especially dramatic, wants a lot of attention, expects a lot from friends, and may act sexy in trying to control the opposite sex.
- The (narcissistic) person who wants a lot of attention, feels that he/she is very important, and takes advantage of others.
- The (anti-social) person who often can not work at a job regularly, is not a good parent or spouse, lies, breaks the law, starts fights.
- The (borderline) person who is not very stable in many ways:
 - ☐ in relationships with others.
 - ☐ in self-image.
 - ☐ in mood (can change quickly).
 - ☐ often abuses alcohol or other drugs.

People who seem anxious or afraid.

Examples:

- The (avoidant) person who is OK when alone. The person feels nervous when around other people, but wants other people to like him.
- The (dependent) person who depends on others and acts helpless.
- The (compulsive) serious type of person who:
 - ☐ works hard and tries to be perfect in every way.

- ☐ wants others to do things his/her way.
- ☐ has trouble making decisions.
- The (passive-aggressive) person who does not want to do something but will not say so. This patient shows anger by putting things off, taking too long to do things, being stubborn, pretending to forget.

PSYCHOSIS (mentally disturbed, "crazy")

Begin here if patient has strange ideas that are not in touch with what is real.

- If patient is violent, go to Mental Health Emergency, p.201.

As you talk with and observe patient, if patient is confused or if he says or does something strange, write down what is abnormal.

1. History

You may need to talk to a family member or friend:

- To get all of the information.
- To check if information is correct.

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** Does patient think he might hurt himself or someone else?
- [2]** What does patient think would help?
- [3]** What is happening in the patient's life right now?
 - Are there problems with job or school, home, friends, or family?

[4] Recent history:

- Head or neck injury within past 4 weeks? If so, now go to p.260. Consider that the assessment may be "serious head injury."
- Drinking alcohol or taking illegal ("street") drugs? If so:
 - ☐ what?
 - ☐ when?
 - ☐ what amount (how much)?
 - ☐ maybe he forgot a head injury.
- Working with chemicals, or breathing in fumes?

1.2 Past Health History

[1] Illnesses:

- Seizures (convulsions)?
- Stroke or other brain/nerve problems?
- Meningitis?
- "Shakes" or DTs from alcohol?
- Mental health problems, such as:
 - ☐ feeling very nervous (anxious)?
 - ☐ having lots of worries, stress?
 - ☐ feeling angry?
 - ☐ feeling sad?
- Thyroid disease?
- Diabetes? If so, be sure to check blood sugar (glucose).

[2] Medicines:

- What medicines is patient taking now?
- Does patient take medicine as directed?

1.3 Other History

[1] Does patient have other complaints, such as:

- Feeling sick, weak, tired?
- Fever or chills?
- Weight loss?
- Headache?

[2] Does any close relative have mental illness?

[3] Has patient been in trouble with the law?

2. Exam

Do a screening physical exam (p.368). Also check the following:

2.1 *If possible injury*, as you examine, look and feel for injuries (especially head and neck).

2.2 Neck:

- If no head/neck injury, check for signs of meningitis. Have patient bend neck forward to touch chin to chest. If needed, gently push head forward. Look for:
 - ☐ stiff neck, or
 - ☐ knees that bend or pull up.

2.3 Do a mental status exam (p.410), including the following:

- Thinking. Ask patient: "Do you see or hear things that other people can not?"
- Orientation. Ask patient:
 - ☐ "What is your name?"
 - ☐ "Where are you now?"

☐ "What is the date?"

- Memory: Can patient remember things that happened in the past *and* recently?
- Judgment. Ask patient: "What would you do if you saw a fire burning in the corner of this room and no one else saw it?"
- Insight. Ask patient: "What do *you* feel is wrong with you?"

3. Assessment

3.1 Your assessment should be **Psychosis** if mental status exam

shows that patient has strange ideas that are not in touch with what is real:

- He may do strange things.
- He may see or hear things that are not real (hallucinations).
- His thoughts may frighten him very much (paranoid thinking).
- What he says may not make sense.
- In talking, he may jump from one subject to another without making a connection.

3.2 Decide if you think patient's psychosis is caused by physical illness or by mental illness.

- Use chart 3.2. for signs of physical illness.

Chart 3.2

Signs that Psychosis is Caused by Physical Illness

Exam	What You May Find	What May Be Wrong
TEMPERATURE	Fever.	Severe infection like meningitis; other brain problem.
PULSE	Slow.	Brain injury.
	Weak, fast.	Shock; thyroid disease.
RESPIRATIONS	Not breathing much.	Stroke; brain injury.
	Deep fast breathing.	Diabetes out of control.
BLOOD PRESSURE	Low	Shock.
	Very high.	High blood pressure emergency; stroke; other brain problem.
GENERAL APPEARANCE	Seizure (convulsion).	Alcohol withdrawal; brain injury; brain infection.
HEAD	Signs of head injury.	Brain injury.
EYES	Eye movement abnormal; pupil size not equal; no reaction to light.	Stroke, brain injury, or other brain problem.
NECK	Stiff.	Meningitis, other brain problem
	Enlarged thyroid.	Thyroid disease.
ARMS AND LEGS	Shaky hands.	Low body temperature; alcohol withdrawal; insulin reaction; thyroid disease.
MENTAL STATUS	Problems with orientation, memory, intelligence, judgment. May see things that are not real.	Alcohol or other drug use; other brain problem.
OTHER NERVOUS SYSTEM EXAM	Abnormal feeling or movement; weakness of certain muscles.	Brain or spinal cord problem, such as stroke or tumor.

- A patient with psychosis from *mental illness*:
 - ☐ may hear rather than see things that are not real (auditory hallucinations).
 - ☐ usually is OK on orientation, memory, intelligence.

3.3 Include in your assessment that the problem is one of the following:

- **Psychosis caused by physical illness** (Plan 4.1).
- **Psychosis from mental illness** (Plan: 4.2).

4. Plan

4.1 Plan: Psychosis Caused By Physical Illness

[1] Consider specific assessments that you can treat.

- If you have found another problem, follow the plan for that problem in this manual. For example:
 - ☐ head injury: see p.259.
- If you do not know the assessment, now go to the assessment step for "Other Nervous System Problems," p.281.

4.2 Plan: Psychosis From Mental Illness

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Special care. If you think the patient may cause serious harm to himself or to others, he may need to be sent to a hospital against his will (p.203).

[3] Support the patient as needed:

- Reassure patient.
- Follow general guidelines for talking and counseling (p.219).
- If needed, explain that:
 - ☐ patient should not feel ashamed of having a mental illness.
 - ☐ the problem can be treated.
 - encourage patient to get further care at the hospital or mental health clinic.

- Have someone stay with patient if you think he may cause serious harm to himself or to others.

[4] Recheck in one day, sooner if needed.

- Rechecking the patient and reporting to your referral doctor are the most important things you can do to provide good follow-up for mental health patients in the village.
- On follow-up visits, go to p.216, "Mental Health Follow-Up."

Schizophrenia: General Information

Schizophrenia is one type of psychosis that is NOT caused by physical illness. The cause is not known. It is the most common serious mental illness.

What Is The Patient Like?

At some time patient is psychotic. This psychosis usually shows up in at least one of the following ways:

- What the patient *does*:
 - ☐ patient may do very strange things. Examples: collect garbage, talk to himself when other people can hear.
- What the patient *says*:
 - ☐ in talking, patient may jump from one idea to another without making much sense.
- What the patient *thinks*:
 - ☐ patient may believe that something which is not possible is true. Example: Patient may tell you that thoughts are put into his head by someone else.
 - ☐ patient may think he sees or hears things that are not real. Often he will hear voices.
- Patient's *mood* may not be normal for the situation. Examples:
 - ☐ patient may laugh when talking about a friend who died.
 - ☐ patient does not seem to show any emotion, even when talking about something happy or sad.

Patient shows a change from how he was before. People will say that patient is "not the same":

- At work.
- Getting along with others.
- Or, taking care of himself.

Schizophrenia starts before the age of 45:

- It usually starts between ages 15-30.
- There may be a family history of schizophrenia or strange behavior.
- Stress can make the symptoms worse.

How Does Schizophrenia Usually Act?

- It comes on slowly.
- Patient improves, but does not recover completely.
 - ☐ he does not function as normally as before.
- Patient's symptoms can get worse again. Each time patient gets worse, the recovery tends to be less complete:
 - ☐ thinking is slower or more abnormal.
 - ☐ mood and behavior is stranger.

Treatment and Management

Several ways of treating schizophrenia are used at once. The following things are important:

- Regular use of medicines for at least 1-2 years after improvement.
 - ☐ often a patient needs to be on medicine for the rest of his life.
- Regular counseling:
 - ☐ talking with patient to help relieve stress.
 - ☐ encouraging patient to do those things he can still do well.
- Support and understanding of family and friends.
 - ☐ the family must understand that this is an illness and that their support can help patient to improve.

MENTAL HEALTH PROBLEM: UNKNOWN ASSESSMENT

Begin here to help you make a more specific assessment of a patient with a mental health problem.

Do NOT begin here for the following:

- If patient is violent, go to Mental Health Emergency, p.201.
- If you know the mental patient's assessment, go to the appropriate section of this manual:
 - ☐ anxiety, p.207.
 - ☐ hyperventilation, p.208.
 - ☐ depression, p.208.
 - ☐ personality problem, p.211.
 - ☐ alcohol or other drug abuse problem, p.204.
 - ☐ psychosis, p.212.

1. History

You may need to talk to a family member or friend:

- To get all of the information.
- To check if information is correct.

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** Does patient have history of problems of the nervous system, now or in past:
- Feeling faint (light-headed) or fainting (passing out)?
 - Feeling dizzy?
 - Coordination or balance problems?
 - Trouble talking?
 - Numbness, tingling, weakness, or trouble moving an arm, leg, or other part of the body?
 - Seizures (convulsions)?

- Stroke or other brain/nerve problems?
- Meningitis?
- "Shakes" or DTs from alcohol?
- Mental health problems, such as:
 - ☐ feeling very nervous (anxious)?
 - ☐ having lots of worries, stress?
 - ☐ feeling angry?
 - ☐ feeling sad?

[2] Does patient think he might hurt himself or someone else?

[3] What does patient think would help?

[4] What is happening in the patient's life right now?

- Are there problems with job or school, home, friends, or family?
- [5]** Recent history:
 - Head or neck injury within past 4 weeks? If so, now go to p.260. Consider that the assessment may be "serious head injury."
 - Drinking alcohol or taking illegal ("street") drugs? If so:
 - ☐ what?
 - ☐ when?
 - ☐ what amount (how much)?
 - ☐ maybe he forgot a head injury.
 - Working with chemicals, or breathing in fumes?

1.2 Past Health History

[1] Illnesses:

- Thyroid trouble?
- Diabetes? If so, be sure to check blood sugar (glucose).

[2] Medicines:

- What medicines is patient taking now?

1.3 Other History

[1] Does patient have other complaints, such as:

- Feeling sick, weak, tired?
- Fever or chills?
- Weight loss?
- Headache?

[2] Does any close relative have mental illness?

[3] Has patient been in trouble with the law?

2. Exam

Do a screening physical exam (p.368). Also check the following:

2.1 If possible injury, as you examine, look and feel for injuries. (especially head and neck).

2.2 Neck:

- If no head/neck injury, check for signs of meningitis. Have patient bend neck forward to touch chin to chest. If needed, gently push head forward. Look for:
 - ☐ stiff neck, or
 - ☐ knees that bend or pull up.

2.3 Mental status (mind). If patient is confused or if he says or does something strange, write down what is abnormal and do a more complete mental status exam (p.410), including the following:

- Orientation. Ask patient:
 - ☐ "What is your name?"
 - ☐ "Where are you now?"
 - ☐ "What is the date?"
- Memory: Can patient remember things that happened in the past and recently?
- Judgment. Ask patient: "What would you do if you saw a fire burning in the corner of this room and no one else saw it?"

3. Assessment

3.1 Your assessment should be:

Mental health problem.

3.2 Make a more specific assessment. Use the chart 3.2.

- If you found a physical problem on exam, decide if you think there is a physical cause for patient's mental problem.

3.3 Include in your assessment that the problem is one of the following:

- **Mental problem caused by physical illness** (Plan 4.1).
- **Psychosis from mental illness** (Plan: p.214).
- **Anxiety (nervousness)** (Plan: p.207).
- **Depression** (Plan: p.209).
- **Personality problem** (Plan: p.211).
- **Alcohol or other drug abuse problem** (Plan: p.205).
- **Other or unknown mental health problem** (Plan 4.2).

Chart 3.2

Mental Health Problems: Some Assessments and Typical Findings

Assessment	Exam	Mental Status Exam
MENTAL PROBLEM CAUSED BY PHYSICAL ILLNESS (Plan 4.1)	Usually abnormal, depending on what the physical problem is (alcohol, head injury, meningitis, stroke, other).	Abnormal: • Problems with orientation, memory, judgment, intelligence. • May see things that are not real.
PSYCHOSIS FROM MENTAL ILLNESS ["crazy"; for example: schizophrenia] (Plan: p.214)	Usually normal.	Abnormal: • Has strange ideas that are not in touch with what is real. May hear voices. • Usually OK on orientation, memory, intelligence.
ANXIETY [nervousness] (Plan: p.207)	Anxiety may have caused some physical problem such as hyperventilation, high blood pressure, or ulcer. Exam may be normal, although patient may have many complaints.	Normal except for looking nervous, worried, or afraid.
DEPRESSION (Plan: p.209)	Usually normal, although patient may have many complaints.	Normal except for looking sad, maybe tired. May cry easily. Does not seem to have much energy.
PERSONALITY PROBLEM (Plan: p.211)	Usually normal.	Normal except that it may be difficult to get along with this patient.
ALCOHOL OR OTHER DRUG ABUSE PROBLEM (Plan: p.205)	May have injuries from accidents. Otherwise usually normal until late stages.	When drunk or withdrawing, or in late stages: Problems with orientation, memory, judgment, intelligence.

4. Plan**4.1 Plan: Mental Problem Caused by Physical Illness:****[1] Consider specific assessments** that you can treat.

- If you have found another problem, follow the plan for that problem in this manual. For example:
□ head injury: see p.259.
- If you do not know the assessment, now go to the assessment step for "Other Nervous System Problems," p.281.

4.2 Plan: Other or Unknown Mental Health Problem**[1] Report** to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Support the patient as needed:

- Reassure patient.
- Help patient to talk about his feelings.
□ follow general guidelines for talking and counseling (p.219).
- Have someone stay with patient if you think he may cause serious harm to himself or to others.

[3] Recheck in one day, sooner if you think this is a serious problem or if patient is getting worse.

MENTAL HEALTH PROBLEM: FOLLOW-UP CARE

Rechecking the patient and reporting to your referral doctor are the most important things you can do to provide good follow-up for mental health patients in the village.

1. After Discharge From a Hospital**1.1** Get information from the hospital.

- If you do not get a discharge letter or

phone call before patient comes home, call the hospital for information about patient's medicine and other advice.

- ☐ charge the call to your referral hospital, if needed. Tell the operator to say that you are a CHA/P.
- ☐ if the hospital is API, call them collect, if needed, at 561-1633. Ask for "transition clinic."

- If you do not understand the hospital's instructions, ask your referral doctor.

1.2 If possible, start to prepare people before patient comes home.

- Many people have unreasonable fears and myths about mental health problems.
- Let the family and others talk to you about their concerns.
- Reassure them. Patient can do well in the community.
- Explain that if patient is to have a chance to do well, he must be accepted by his family and by the village.
- Explain to the family:
 - ☐ patient's problems.
 - ☐ the treatment plan.
 - ☐ the need for patient to take his medicine correctly.

1.3 Make an appointment to see the patient. Ask patient, and use your judgment about where to meet.

- Some patients with mental illness would rather be visited at home.
- Some would like to become more independent and see you at the clinic.

2. Get Information from the Doctor

You need to know the doctor's assessment and plan, including:

2.1 Medicine: Is patient supposed to take any medicine? If so, for each medicine, find out the following:

- Name.
- Dose.
- How often patient should take it.
- Warnings and side effects patient should look for.
- Possible problems when taking other medicine at the same time (drug interactions).

- How will refills be arranged?
- When should prescription be changed (increased or stopped)?

2.2 Are there any special problems or symptoms to watch for in this patient?

2.3 Is there other special patient education?

2.4 Does patient need any special appointments or tests? If so, how will these be arranged?

3. Get History From Patient

See patient at a time when you both can talk in private.

- It is good to see patient at home now and then, so you can understand what his home life is like.

3.1 *If on medicine:*

- You may want to ask patient to show you his medicines and to tell you about them.
 - ☐ check to see if patient has used the correct amount since you last saw him.
 - ☐ if patient does not know what a medicine is used for, explain.
- Does patient take medicine as directed?
- Are there side effects or problems from the medicine?

3.2 Does patient have any problems?

- If he had problems in the past, ask about those same problems.
Example: Is he hearing voices?

4. Exam

Check for changes from patient's usual exam.

4.1 When you first examine patient with a mental health problem, **do a screening physical exam (p.368).**

4.2 Examine parts of the body in more detail, if needed, depending on patient's complaints.

5. Assessment

5.1 Your assessment should include:
Mental health problem: follow-up care.

5.2 Also include in your assessment:

- "Doing well," if no problems.
- Problems with medicine:
 - ☐ side effects.
 - ☐ NOT taking as directed.
- Other problems you have found.

6. Plan

6.1 Patient education. If needed, get patient education handouts from your referral hospital or other sources.

6.2 Special care should include the following:

- Follow general guidelines for talking and counseling (p.219):
 - ☐ accept the patient. Do not judge or criticize him.
 - ☐ take the time to listen.
 - ☐ help him to talk about his feelings.
- As with every patient, be sure to check out and treat physical complaints that patient has.

6.3 If on medicine, your plan should include the following:

- Discuss importance of taking medicine.
 - ☐ if patient has trouble remembering, the doctor may ask you to give medicine in clinic each day or several times a week.
- Remind patient about warnings and possible side effects.
- If side effects, treat as recommended by your referral doctor.
- Give patient a refill, if needed.
 - ☐ give only a one week supply, at least until you know that patient is doing well. Keep the rest of the medicine at the clinic.
 - ☐ giving small amounts of medicines to mental health patients will help to:
 - prevent overdose.
 - provide important follow up.
 - encourage patient to take the medicine.

6.4 Recheck: Make appointment for next visit. *If doing well,* see patient as follows, more often if needed:

- Once a week at first.
- If patient continues to do well, your

referral doctor may suggest that you see patient less often (maybe every 2-3 weeks).

6.5 Report to your referral doctor:

- If possible, send a copy of your SOAP note to the doctor. Contact him sooner if you found any problems.
- If on medicine:
 - ☐ report all side effects. The doctor *may* tell you to encourage patient to tolerate certain side effects.
 - ☐ report if patient is not taking medicines as directed.
- Ask doctor if special immunizations are needed for this patient (flu, pneumococcal).

6.6 Other plan should include the following:

- Order more medicines, if needed.
 - ☐ order well in advance.
 - ☐ fill out the pharmacy refill request, if needed.
- Check to see that patient's name is on list of patients to be seen on a field trip by doctor, PHN.
- Observe patient when you see him around town. Note any changes in behavior or other signs of trouble.

MENTAL HEALTH: GENERAL INFORMATION

Good health means physical, social, and mental/well-being.

It is likely that more than half of all visits to CHA/Ps involve mental health problems of some kind.

SUICIDE: GENERAL INFORMATION

If patient has just tried to commit suicide or you think he is going to:

- Make sure someone stays with patient and tries to calm him.
- Go to p.201, "Mental Health Emergencies."

Use the following information:

- To help you decide if a patient is at high risk to commit suicide.
- to help prevent suicide.

Look for Suicide Risk Factors

Suicide and suicide attempts are common in Alaska. Patients usually give clues. You need to recognize the patient at high risk for committing suicide. The more things that patient has from the list below, the more likely he is to commit suicide:

- Thoughts of suicide, especially patient who:
 - ☐ tells you that he wants to die or would be better off dead.
 - ☐ has picked a way to commit suicide, especially a violent way.
 - ☐ has picked a time and place to commit suicide.
 - ☐ has written a suicide note.
 - note may be in the form of an apology to family members or friends.
 - ☐ has started giving away things he loves.
- History of suicide attempt. A person who tries a second time will usually try within three months after the first try.
- Mental health problems, especially if patient has:
 - ☐ psychosis (p.212), plus:
 - is afraid of other people.
 - hears voices that tell patient to kill himself.
 - ☐ depression, plus:
 - alcohol use or other drug abuse.
 - feels like there is no hope for things to get better.
 - feels lonely. May live alone or with a person who does not give patient much support.

- has trouble sleeping.
- has weight loss or gain.
- has many physical complaints.
- avoids other people.
- seems to get better all of a sudden.
- has decided that suicide is the only solution.

- ☐ alcohol use or other drug abuse.
- ☐ trouble getting along with others for a long time.
- ☐ fear of losing control, of hurting himself or others.
- Other changes in health:
 - ☐ birth of a baby.
 - ☐ major surgery.
 - ☐ chronic disease or pain.
- Recent loss or separation from:
 - ☐ job.
 - ☐ money.
 - ☐ loved ones.
- Family history of suicide or suicide attempts.
- Never married.
- Certain ages:
 - ☐ any child who talks about suicide or is depressed.
 - ☐ depressed teenagers and young adults.
 - ☐ in men: suicides increase up to age 70, then decrease.
 - ☐ in women: suicides increase up to age 55-60, then decrease.

Suicide Prevention

Ask a depressed patient about suicide thoughts as on p.209.

- Do not be afraid to ask. You will not give patient the idea.
- It is common for a depressed patient to think about suicide. Most patients do not think about it seriously.
- The more suicide plans patient has made, the more likely it is that he may kill himself.

Understand the suicide risk factors above. If you think a patient is likely to commit suicide:

- Report to your referral doctor.
- While you are waiting to report, follow the plan on p.209, "Depression with High Risk to Commit Suicide."
 - ☐ patients are usually only suicidal for a short period of time.

Give every mental health patient an appointment for a return visit, especially if patient tried to kill himself in the past.

- See patient at a time when you can talk privately.
- Report to your referral doctor.

Encourage patients to follow general advice for preventing mental illness (chart C).

COUNSELING RESOURCES

Help patients with mental illness to talk with someone. Exactly what kind of counseling is needed depends on the patient.

- For most patients, being able to talk to someone who is interested is often what is needed.
- Patients who have serious psychiatric problems usually respond better at first to treatment that a doctor begins.
 - ☐ still, your time spent with them, or the time spent with them by one or more of the following resources is also very helpful.

Keep in mind these resources:

- In the village:
 - ☐ counselor.
 - ☐ friend.
 - ☐ relative.
 - ☐ CHA/P.
 - ☐ traditional healer.
 - ☐ minister.
 - ☐ council member.
 - ☐ teacher.
 - ☐ police officer.
 - ☐ local alcohol group.
 - ☐ visiting health care provider.
- Outside of the village:
 - ☐ referral hospital.
 - ☐ PHN.
 - ☐ law officer or magistrate.
 - ☐ battered women's group.
 - ☐ other state or regional social service or mental health program.

TALKING AND COUNSELING

When the Patient Has a Problem

Your goal should be to help *patient* talk about problems.

- Find a place where the patient can talk privately.
- Tell patient that you will keep his problems confidential.

Have These Attitudes

Trust the patient:

- To be able to decide what the problem is, by talking to you about what is happening and how he feels.
- To solve the problem.
 - ☐ when you first see him, patient may feel that he can NOT do much. Later, after talking, he can understand things more clearly.

Trust yourself.

- There is no *one* right way to do counseling.
- Be relaxed and confident.
- Use your common sense with each patient.

Accept the patient's feelings, even though you may not agree.

- The patient may even get angry at you. Do not take it personally.

Be interested.

- Show patient that you will listen.
- Look at patient as you two talk, but do not look so much that it makes patient uncomfortable.
- If you are not interested in this patient, it would probably be better for someone else to be the counselor.

Be in a good mood, not grim.

Be patient. Take the time to listen.

- If you do not have the time, say so.
 - ☐ make an appointment with patient for a time when you *can* listen.

Do These Things

Help patient to talk about *feelings*.

- Offer a tissue if patient starts to cry.
- Comment on patient's mood or on feelings you think patient has.
Examples:
 - ☐ "You look sad today."
 - ☐ "You seem upset."
 - ☐ "That makes you nervous?"
 - ☐ "It looks like something is on your mind."
 - ☐ "You are worried because your mother is sick."
 - ☐ "It sounds like you are angry."

Ask questions that help patient to talk.

- Ask questions that call for more than a short "yes" or "no" answer. For example:
 - ☐ "What happened last night?"
 - ☐ "How do you feel about that?"
 - ☐ "What do you think will happen?"
- Ask questions in a way that does not make patient think he *should* answer something. For example:
 - ☐ do say: "Tell me about your marriage."
 - ☐ do NOT say: "Do you have a good marriage?" (The answer to that question *should* be "Yes.")

Do not worry about silence after you ask a question. What patient says after the silence may be very important.

Help patient to talk more once he has started:

- Nod your head.
- Be silent, look at patient, and listen carefully.
- Say something like:
 - ☐ "Oh?"
 - ☐ "That's interesting."
 - ☐ "Tell me about that."
 - ☐ "I would like to hear what you are thinking."

If something upsets patient, encourage him to talk about it. If needed, say in your own words what you think the patient means. This will help to make the problem clear to both of you. For example:

- Patient: "How long do you think my mother will be in the hospital?"
- CHA/P: "You are worried about your mother."

- Patient: "Yes, and I need to baby-sit until she comes home."
- CHA/P: "You don't want to baby-sit."
- Patient: "I don't mind, if it's just for a couple of weeks."
- CHA/P: "It's OK if you baby-sit for a couple of weeks?"
- Patient: "Yes. Then I have to go back to work at the school."
- CHA/P: "You are afraid that you might lose your job if you stay out for longer than two weeks."
- Patient: "Yes."

Begin a plan of action.

- Choose something you both agree is a problem.
- Ask patient: "What would you like to do about this problem?"
- Ask patient to think of a few different ways (options) to solve the problem and what might happen with each of those options.
- Agree on a plan, even if the plan is to think about it and talk again.
- End the visit in a positive, friendly way. Make it easy for patient to return to see you if needed.

Do NOT Do These Things

Do NOT think that patient's problem is yours. The problem is the patient's. The patient is responsible for what he does about it.

Try NOT to ask the question "Why?"

- That question will often make patient angry.
- If you must know why, ask "What is your reason for..."

At first, do NOT agree with patient's feelings or say that what he is doing is good.

- Patient does not need to hear sympathy or compliments at first.
- After patient has talked about his feelings and thought out how to solve the problem, it is important for you to support what patient has said.

Do NOT change the subject, even by joking.

Do NOT try to make patient forget about the problem.

Do NOT reassure or praise the patient, trying to talk him out of his feelings.

Do NOT judge or criticize patient.

- Try not to disagree.
- Try not to say something that may make patient feel bad about himself.

Do NOT tell patient what you think he "should" do.

- Do NOT argue with patient, trying to convince him.
- Do NOT threaten a patient, telling him what will happen if he doesn't do something.
- There is a time for telling your feelings and suggestions. First patient should:
 - ☐ talk about the problem.
 - ☐ think about what to do.
 - ☐ and then ask what you think.

Do NOT promise the patient an answer to his problem, unless you are sure.

- Sometimes things do not get better, and patient must learn to cope.

When YOU (CHA/P) Have a Problem

When you are upset with someone, it is better NOT to say something that will upset that person. Bring up the problem in a way that will:

- Help that person decide to change, and
- Keep you both getting along with each other.

Tell the person how *you* feel. Do not criticize. Try to include three things, in saying how you feel. See chart A. Try NOT to say that the feeling you have is anger.

- Often there is a feeling that comes before anger:
 - ☐ think about what that feeling might be.
 - ☐ for example, it might be that you were sad, nervous, afraid, or jealous; and next you got angry.
- Look at *why* you got angry, and talk about *that* feeling to people.
- People respond better to hearing you talk about feelings other than anger.

When the person answers you, he may be upset:

- Remember to accept the person's feelings, even though you may not agree.
- Say the same things as you would when a patient has a problem:
 - ☐ comment on the person's mood or on feelings you think he has.
 - ☐ encourage the person to talk about the problem.
 - ☐ say in your own words what you think the person means. This will help to make the problem clearer to both of you.
- Tell the person again how you feel in as nice a way as possible.

REDUCING STRESS

Stress is that uncomfortable feeling of being under pressure, usually from work or personal life.

How can we prevent and treat stress? There is no one answer. Chart B lists a summary of the ways to help manage stress.

MENTAL ILLNESS: PREVENTION

A person's mental health develops throughout life. No *one* thing will prevent mental illness. We do know that certain things help:

As a health care provider, you should:

- Teach patients that mental health is part of health in general.
- Encourage patients to talk with others about their problems and their feelings.
- Recognize signs of mental illness, including suicide risk as you:
 - ☐ listen to patients.
 - ☐ observe patients.
- Make assessments and plans for mental health problems.
- Give follow-up appointments to patients with mental illness.

Patient education should include information in chart C.

Chart A

Telling a Person How You Feel

Include Three Things:	Example:
1. What the person has done that bothers you, in a way that doesn't blame the person.	1. "When you call me after clinic hours for something that is not an emergency,
2. What feelings you get when the person does that thing.	2. I feel bad,
3. The reason why you get those feelings.	3. because I feel like I need some time away from the clinic."

Chart B

Patient Education REDUCING STRESS

1. Do away with the stress that you give yourself:
 - Worrying or being angry.
 - Thinking that you or someone else *should* do something.
2. Know yourself. Be at peace with yourself. Accept yourself. Feel good about yourself and about your life.
 - Although you can not be happy 24 hours a day, you can pick out the kind of job that you like and do it.
3. Accept each person, even though you may not accept all that he does.
 - Do not blame people.
 - Be understanding of the stresses that others have.
4. Do something for someone else.
5. Plan how you will use your time.
6. Plan ahead for problems. Think out what the problem is, and what you will do the next time it comes up.
7. Have interests other than work.
8. Keep work and non-work life separated as much as possible.
9. Have good nutrition.
 - Follow basic guidelines for a healthy diet (p.443).
 - Cut down on caffeine (coffee, regular tea, chocolate, cola drinks; p.446).
10. Exercise regularly.
 - Find the time, three times a week, for 20 minutes of walking or some other exercise without getting short of breath.
 - Consult your referral doctor first if you are over 40 years old or have a chronic disease.

11. Do something for yourself. Break the stress cycle:
 - Set aside some time every day. Use that time for yourself.
 - Find a place where you can get away from it all.
 - ☐ be quiet, be alone.
 - ☐ relax.
 - Use breathing exercises to help you relax:
 - ☐ slowly take a deep breath in and hold it.
 - ☐ slowly let it out. As you let it out, let your shoulders and the rest of your body relax.
 - ☐ repeat this several times.
 - Try other common stress relievers:
 - ☐ taking a stretch break.
 - ☐ chewing gum (sugarless gum will give you less stressful cavities!).
 - ☐ listening to music, singing.
 - ☐ telling stories.
 - ☐ praying.
 - ☐ taking a nap.
 - ☐ taking a hot bath, steam bath, or sauna.
 - ☐ cleaning yourself up, getting dressed.
 - ☐ being with friends.
 - ☐ dancing.
 - ☐ having a massage.
 - ☐ working with your hands.
 - ☐ having sex.
 - ☐ getting counseling from a friend or a professional.
 - Find out from a social worker, counselor, doctor, nurse, minister, or someone else some other ways of relaxing, such as:
 - ☐ meditation or yoga.
 - ☐ relaxation by tightening and then relaxing different muscles.

Chart C

Patient Education MENTAL ILLNESS: PREVENTION

1. Follow guidelines for wellness (p.442).
2. Talk about your problems and feelings. Do not keep emotions bottled up inside.
3. Recognize that infancy and childhood are important times for developing good mental health.
 - Raise your children with love and trust.
 - Encourage children to talk about their feelings.
 - Use praise and encouragement for things done well.
 - Do not:
 - ☐ use severe punishment.
 - ☐ threaten to hurt a child.
 - Discipline, if needed, should be prompt, especially for young children.
 - ☐ discipline should be consistent and fair.
 - ☐ discipline should be done by the parent who is with the child at the time.
4. Join together with other people who are concerned about mental health in your community. Decide as a group what things can be done to help the people of your village. This often will involve:
 - Deciding how to handle alcohol in the village
 - Encouraging school districts to have health education programs for all grades, geared toward mental health.

TOOTH OR JAW INJURY

1. First, Give Emergency Care

1.1 First, go to p.259. Begin emergency care, get history, and examine patient for head injury.

- Be sure to watch patient's airway and breathing. Injuries to the mouth can make a patient gag or choke.

1.2 If tooth is loose or out of position, do NOT try to move it back into position, unless this manual or your referral dentist/doctor tells you to.

2. Exam

2.1 General appearance.

2.2 Vital signs: P, R, BP.

2.3 Teeth, gums, mucous membranes. Examine carefully the place where it hurts. Note the following:

- Chipped, cracked, or broken tooth. If so, can you see:
 - ☐ soft center of the tooth (pulp)? Is it bleeding?
 - ☐ yellow (dentin)?
- Loose or missing teeth.
- Wounds.

2.4 Jaw. An injury to the teeth may also break the jaw. Check for signs of a broken jaw:

- Note shape of jaw, bruises, swelling, wounds.
- Have patient close his mouth and show you his teeth.
 - ☐ do teeth fit together normally for him?
 - ☐ note teeth that do not line up or that are out of place.
- Feel for bone tenderness and smoothness. Start away from the painful area and slowly work toward it.
- Hold the teeth on each side of jaw. Gently try to move the two places.
- Check for nerve damage. Can patient feel your light touch the same on both sides of body:
 - ☐ on lips?
 - ☐ on skin around the jaw?

3. Assessment

3.1 Your assessment should be:

Tooth or jaw injury.

3.2 Make a more specific assessment. First decide if jaw is broken. Use chart 3.2.

Chart 3.2

BROKEN JAW: TYPICAL FINDINGS

History:

- Pain. Hurts to open or close mouth. (Pain may be at top of lower jaw, near ears.)

Exam:

- Swelling, bruising.
- Jaw out of shape.
- Teeth may not fit together or line up right.
- Jaw tender in one spot, even when pressing another.
- You may feel movement of the broken spot.
- Numbness on part of skin, lips, or inside of mouth.

3.3 Include in your assessment that the injury is one of the following:

- **Broken jaw** (Plan 4.1).
- **Dislocated jaw** (out of joint; jaw is locked open; Plan 4.2).
- **Whole tooth knocked out** (all is knocked out, including the root; Plan 4.3).
- **Broken tooth** (tooth is broken *more than* just through the enamel: into the yellow dentin or the soft pulp in center; Plan 4.4).
- **Chipped enamel** (hard, thin outer cover; Plan 4.5).
- **Other tooth or jaw injury** (bruise, tooth pushed out of line, other; Plan 4.6).

4. Plan

4.1 Plan: Broken Jaw

[1] Report NOW to your referral dentist or doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.
- Have someone arrange for transport to hospital as soon as possible.

[2] Transport patient to hospital.

While you are waiting to transport, your plan should include the following:

- Splint the jaw with a bandage that is easy to remove if patient vomits (as shown on p.253).
- Now go to plan 4.6 ("General Care for Most Injuries"). Follow parts of that plan which apply.

4.2 Plan: Dislocated Jaw

[1] Report NOW to your referral dentist or doctor.

If you can NOT reach a doctor, follow this plan until you can.

[2] Decide if you should reduce the dislocation when you can NOT reach a doctor:

- Try to reduce the dislocation only if the following is true:
 - ☐ the dislocation is one that you feel confident you can reduce easily.

AND

- ☐ the doctor has signed for you to do this when you can NOT reach him.
- For reducing a jaw dislocation, see p.241.

[3] If you do NOT reduce the dislocation, arrange for transport to the hospital. While you are waiting to transport, your plan should include the following:

- Apply cold packs (ice, placed in plastic bag and wrapped in a towel). Apply for 20 minutes.
 - ☐ repeat, on and off, to reduce swelling and pain.
- Recheck:
 - ☐ vital signs: P, R, BP.
 - ☐ jaw:
 - appearance (swelling).
 - feeling (sensation).
- *If pain is severe,* you can NOT reach a doctor, and patient does NOT have a head injury, give an I.M. shot of MEPERIDINE (Demerol®) or MORPHINE (p.417).
- If transport is delayed, recheck at least every 6-12 hours, more often if needed.

[4] If you DO reduce the

dislocation, and patient is doing OK, your plan should include the following:

- Patient probably should still be seen at the hospital for X-ray, but does NOT need emergency transport.
- To reduce swelling and pain, patient should do the following:
 - ☐ for the first 1-2 days, apply cold packs (ice, placed in plastic bag and wrapped in a towel). Apply for 20 minutes. Repeat as needed.
 - ☐ after 1-2 days, apply heat for 20 minutes, about four times a day.
- For prevention, patient should avoid opening the mouth very wide.
- If needed for pain, give ASPIRIN OR ACETAMINOPHEN (Tylenol®) (p.416).
- Recheck in one day, sooner if patient is having problems. Check:
 - ☐ vital signs: P, R, BP.
 - ☐ jaw:
 - appearance (swelling).
 - feeling (sensation).
 - movement.

4.3 Plan: Whole Tooth Knocked Out

Try to save the tooth *only* if it is a permanent (adult) tooth.

[1] Report NOW to your referral dentist or doctor. Begin the following treatment while someone else contacts the doctor.

[2] If a permanent (adult) tooth, do the following:

- If tooth is dirty, clean by rinsing it gently with milk, clean water, or salt water.
- **Try to put a permanent tooth back into place in its socket.**
 - ☐ the chance that the tooth will live is best if you can put the tooth back in *within ½ hour*.
- If you can NOT put a permanent tooth back into its socket, while you are waiting to talk to your dentist, do the following:
 - ☐ wrap the tooth in a sterile 4x4 (gauze sponge).
 - ☐ place it in a clean container.

- ☐ cover it with milk. *If milk is not available*, use 0.9% SODIUM CHLORIDE (saline) or clean water.

[3] Other plan: Now go to plan 4.6 ("General Care for Most Injuries"). Follow parts of that plan which apply.

4.4 Plan: Broken Tooth

[1] Report NOW to your referral dentist or doctor.

If you can NOT reach a doctor, follow this plan until you can.

[2] If soft center (pulp) was NOT bleeding OR if tooth is not broken into the pulp, do the following:

- Put in a temporary filling (p.230).
This will hurt while you are doing it, but it will help to:
 - ☐ stop the pain.
 - ☐ save the tooth.
- *If you do NOT know how to put in a temporary filling*, treat pain as needed with CLOVE OIL (Eugenol, p.230).

[3] If pulp is bleeding OR if you can see that pulp was bleeding:

- Do NOT put in a temporary filling unless your referral dentist or doctor tells you to.
 - ☐ pulp may bleed again and cause problems.
- Treat pain if needed with CLOVE OIL (Eugenol, p.230).

[4] Other plan: Now go to plan 4.6 ("General Care for Most Injuries"). Follow parts of that plan which apply.

4.5 Plan: Chipped Enamel

[1] Report to your referral dentist or doctor only if tooth is hurting.

- While you are waiting to report, follow this plan.

[2] Special care should include the following:

- If needed, treat pain with CLOVE OIL (Eugenol, p.230).
- Now go to plan 4.6, which follows ("General Care for Most Injuries"). Follow parts of that plan which apply.

4.6 Plan: Other Tooth or Jaw Injury and General Care for Most Injuries

[1] Report to your referral dentist or doctor unless the injury is minor and the doctor has signed for you to treat this problem without contacting him.

- While you are waiting to report, follow this plan.

[2] Medicine may include the following:

- If patient has NOT had a TETANUS booster shot in the past 10 years:

Give I.M. booster shot of **TETANUS TOXOID and DIPHTHERIA (Td)**.
• **Dose: 0.5 cc. I.M.**

- *If broken jaw or whole tooth was knocked out*, give older child or adult an antibiotic, to prevent infection:

Give one I.M. shot of **PROCAINE PENICILLIN** (Wycillin®).
• **Give shot once:**

Weight	Approximate Age	Dose
Less than 45 lbs.	Less than 6 yrs.	Consult doctor.
45-49 lbs.	6 yrs.	600,000 Units
50 lbs. or more	7 yrs. or more	1,200,000 Units

ALSO:

Start **PENICILLIN V** (250 mg./5 ml. suspension or 250 mg. tablets).
• Plan to give four times a day until patient is seen at hospital or until dentist tells you to stop (in a few days).

Weight	Approximate Age	Dose
Less than 45 lbs.	Less than 6 yrs.	Consult doctor.
45-49 lbs.	6 yrs.	200 mg. (4 cc.)
50 lbs. or more	7 yrs. or more	250 mg. (1 tablet)

OR:

If allergic to PENICILLIN:

Start **ERYTHROMYCIN**

(200 mg./5 ml. suspension or 250 mg. tablets).

- Plan to give four times a day until patient is seen at hospital or until dentist tells you to stop (in a few days).

Weight	Approximate Age	Dose
Less than 45 lbs.	Less than 6 yrs.	Consult doctor.
45-49 lbs.	6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

- If needed for pain, give ASPIRIN OR ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ if pain is severe and you can NOT reach a doctor, give ASPIRIN OR ACETAMINOPHEN (Tylenol®) with CODEINE (p.416).

[3] Other plan should include the following:

- Care for wounds:
 - ☐ skin wounds (p.339).
 - ☐ wounds in mouth (p.228, "Other Sores Inside the Mouth").
- If patient has broken jaw, loose tooth, or bruise, patient should do the following, to reduce swelling and pain:
 - ☐ for the first 1-2 days, apply cold packs (ice, placed in plastic bag

and wrapped in a towel). Apply for 20 minutes. Repeat as needed.

- ☐ after 1-2 days, apply heat for 20 minutes, about four times a day.
- For any tooth injury deeper than chipped enamel, tell patient to:
 - ☐ eat soft foods for 3-4 days.
 - ☐ keep his mouth clean with:
 - gentle brushing.
 - salt water rinses.

[4] Recheck as follows:

- Recheck in 1-2 days, sooner if patient is getting worse.
- Check temperature.
- Check for other signs of infection (getting more tender, warm, red, swollen; pus seen).
- If a tooth is hurting more, patient should see a dentist as soon as possible.
- Remind patient how to care for his teeth, including:
 - ☐ brushing (p.234).
 - ☐ flossing (p.235).
- When the time is right, talk about accident prevention. *If problem is related to alcohol* or other drug abuse:
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.
- As with other dental problems, put patient's name on a list of patients to be seen by the dentist on a field trip.

SORES IN THE MOUTH

Begin here if patient has sores in the mouth, including:

- Canker sores.
- Possible herpes.
- Minor injuries (irritation from dentures, biting the cheek, others).

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] What is the problem like now?

- If the sores are painful, do they hurt so much patient can not eat or drink? *If so*, ask questions about dehydration:
 - ☐ what *has* patient been able to eat or drink?
 - ☐ is patient very thirsty?
 - ☐ when did patient urinate last?

[2] Does patient have any other complaints, such as:

- Fever?
- Toothache?
- Bleeding gums?

2. Exam

2.1 General appearance.

2.2 Vital signs: T, P, R.

2.3 If not eating/drinking well, check weight.

- If losing weight, check for other signs of dehydration (p.71).

2.4 Mouth and throat. Wear examination gloves and carefully check lips, teeth, gums, mucous membranes, tongue, and throat. Examine the sores closely:

- Appearance:
 - ☐ number of lesions.
 - ☐ size and shape.
 - ☐ are they raised/flat/depressed (ulcers)?
 - ☐ color.
 - ☐ other appearance, such as pus.
- Feel the area:
 - ☐ is it tender to touch?
 - ☐ what does it feel like (soft, firm, hard)?
 - ☐ if white patches, can you rub off the white area with a 4x4 gauze sponge?

2.5 Jaw and neck:

- Appearance.
- Feel the jaw for tenderness.
- Feel for lymph nodes under lower jaw and on neck. If felt, note location, size, tenderness, and if movable.

3. Assessment

3.1 Your assessment should be:

Sores in the mouth.

3.2 Make a more specific assessment.

Use chart 3.2.

3.3 Include in your assessment that

the problem is one of the following:

- **Canker sores** (aphthous ulcers; Plan 4.1).
- **Herpes sores:**
 - ☐ **first infection** (Plan 4.2).
 - ☐ **recurrent infection (cold sore)** (Plan 4.3).

- **Infected gums** (Plan 4.4).
- **Irritation from dentures** (Plan 4.5).
- **Leukoplakia** (Plan 4.6).
- **Thrush (Candida, Yeast)** (Plan 4.7).
- **Other sores in the mouth** (bruise, wound, other; Plan 4.8).

Chart 3.2

Sores in the Mouth: Common Causes and Typical Findings

Assessment	History	Exam
CANKER SORE [aphthous ulcer] (Plan 4.1)	Painful sores that recur inside the mouth. May be brought on by stress, including illness.	Sores: Usually 1-2 ulcers on mucous membranes (not on roof of mouth), 1 cm. size or smaller.
HERPES [herpes simplex virus infection] First infection (Plan 4.2)	Usually an infant or child. Symptoms come on fast. Much pain. Patient does not want to eat or drink. May drool.	May look sick. Fever of 100-104° Gums: Red, swollen, bleed easily Lips: May also be affected. Sores: May be many. Start as tiny blisters on mucous membranes. They break, become small white ulcers. Enlarged lymph nodes in neck.
Recurrent infection [fever blister, cold sore] (Plan 4.3)	Usually recurs in same spot. Brought on by fever, sunburn, windburn, injury, food allergy, stress, others. Sore area may burn or sting.	Sore: Usually one, where lip meets skin. Starts as tiny blisters. They break, get crusted over. Scab forms. Lymph nodes may be enlarged.
INFECTED GUMS [caused by bacteria] (Plan 4.4)	Usually an adult with poor dental care. Painful. Patient may feel quite sick.	May look sick. Usually fever. Face or jaw may be swollen. Gums: Red, swollen, bleed easily. Teeth: Poor dental care. Sores: Areas of pus around teeth. Breath: Smells bad. Enlarged lymph nodes in neck.
IRRITATION FROM DENTURES (Plan 4.5)	Patient complains of sore from denture rubbing.	Sore: Spot where denture rubs. May also have white patches of thrush (yeast) infection.
LEUKOPLAKIA [white patch] (Plan 4.6)	Patient is adult, usually a tobacco user. May have no symptoms.	Sore: White patch on mucous membrane. Part of the area may have redness or ulcer. Does NOT rub off with gauze.
THRUSH [candida, yeast infection] (Plan 4.7)	Patient usually is an infant, or wears dentures, or is taking antibiotics.	Sores: Usually more than one. White patches on mucous membranes. Can rub off with gauze.

4. Plan

4.1 Plan: Canker Sores

[1] Patient education. Explain to patient that:

- The cause is not known.
- It may take two weeks for the sores to go away.

[2] Other plan: Now go to plan 4.8 ("General Care for Most Mouth Sores"). Follow parts of that plan which apply.

- Recheck this patient only if needed. Tell patient to return to clinic if he is getting worse instead of better.

4.2 Plan: Herpes: First Infection

[1] Patient education should include the following:

- Explain to patient:
 - ☐ the problem is caused by a virus. As with a headcold, there is no cure.
 - ☐ the sores are usually better in 7-10 days but *may* last as long as 2 weeks.
- Avoid dehydration. Patient should drink lots of liquid, even if he does not want to drink.
- To reduce pain, it may help to:
 - ☐ eat ice cream, or
 - ☐ suck on something cold like a popsicle or ice cube.

[2] Other plan: Now go to plan 4.8 ("General Care for Most Mouth Sores"). Follow parts of that plan which apply.

4.3 Plan: Herpes: Recurrent Infection (Cold Sore)

[1] Patient education should include the following:

- At this time there is no medicine recommended to prevent or treat this recurrent infection.
- Patient should try to prevent attack.
 - ☐ avoid whatever seems to bring on an attack, if possible. Example: a sunscreen cream on the lips may help.

- Herpes virus can be spread from one person to another. Prevent it from spreading:
 - ☐ when blisters are present or when patient feels the sores starting, he should NOT kiss (especially should not kiss a newborn).
 - ☐ wash hands after touching sores.
- Attacks may be common. They usually last 1-2 weeks.

[2] Other plan: Now go to plan 4.8 ("General Care for Most Mouth Sores"). Follow parts of that plan which apply.

- Recheck this patient only if needed. Tell patient to return to clinic if he has problems, such as signs of infection with bacteria: getting more tender, warm, red, swollen, with pus.

4.4 Plan: Infected Gums

Note: If this patient does NOT have a fever and does NOT look sick, he probably has gum (periodontal) disease. Now to go p.229.

If patient has a fever or looks sick, follow this plan:

[1] Report to your referral dentist or doctor.

If you can NOT reach a doctor, follow this plan until you can.

[2] Medicine. Give adult an antibiotic:

Give **PENICILLIN V** (250 mg. tablets).

- **Dose: 250 mg. (1 tablet) four times a day for 7 days.**

OR:

If allergic to PENICILLIN:

Give **ERYTHROMYCIN** (250 mg. tablets).

- **Dose: 500 mg. (2 tablets) four times a day for 7 days.**

[3] Patient education: Patient should drink lots of liquid (8-10 glasses of water or other liquids a day).

[4] Other plan: Now go to plan 4.8 ("General Care for Most Mouth Sores"). Follow parts of that plan which apply, with the following additions:

- Recheck this patient in one day, sooner if he is getting worse.
- As soon as gums start to heal, do the following:
 - ☐ tell patient to use a *soft* toothbrush, even if painful, to clean the teeth gently and carefully.
 - ☐ follow the plan for "Gum (Periodontal) Disease," p.231.
- Put patient's name on a list of patients to be seen by the dentist on a field trip.

4.5 Plan: Irritation from Dentures

[1] Report to your referral dentist. Patient will probably need dentures adjusted.

- While you are waiting to report, follow this plan.

[2] Patient education: Advise patient not to use his dentures for several days (until his mouth heals). He should:

- Wash the dentures well with mild soap and water. Add 2 drops of bleach to each cup of wash water.
- Store them covered with water, to prevent them from drying out.

[3] Other plan: Now go to plan 4.8 ("General Care for Most Mouth Sores"). Follow parts of that plan which apply, with the following additions:

- After rinsing the mouth, it may help this patient to use **NYSTATIN** (Mycostatin®):
 - ☐ swish 4 ml. around the mouth and hold in the mouth for a few minutes before swallowing.
 - ☐ this will help to kill yeast that may be there.
- Put patient's name on a list of patients to be seen by the dentist on a field trip.

4.6 Plan: Leukoplakia

[1] Report to your referral dentist. Patient will probably need a biopsy (a piece of tissue removed to check for cancer).

- While you are waiting to report, follow this plan.

[2] Other plan should include the following:

- Advise patient to:
 - ☐ avoid things that irritate his mucous membranes, especially tobacco.
 - ☐ see a dentist as soon as possible.
- Check with patient to be sure he sees a dentist.

4.7 Plan: Thrush (Candida, Yeast)

[1] Report to your referral doctor unless patient is an infant and doctor has signed for you to treat this problem in infants without contacting him.

- *Always report if* older child or adult. Your referral doctor may suggest that you do a blood sugar (glucose) test to check for diabetes.
- While you are waiting to report, follow this plan:

[2] Medicine should include the following:

Give **NYSTATIN** (Mycostatin®) by mouth. This medicine kills the yeast that it touches.

- **Dose, four times a day:**
 - ☐ age up to 1 yr.: Use 2 ml. (squirt 1 ml. into each side of mouth).
 - ☐ age 1 yr. or more: Use 4-6 ml. (2-3 ml. in each side of the mouth). If possible:
 - swish around the mouth.
 - hold in the mouth for a few minutes. Then swallow.
- Patient should use the medicine for 2 days after the mouth seems normal. Plan to use this medicine for about 7 days.

[3] If infant, also do the following:

- Examine for diaper rash. If present, also treat for diaper rash in skin folds (p.327).
- If bottle feeding, tell parent to boil nipples.

- If breast feeding, also treat the mother's nipples for yeast:

Give **CLOTRIMAZOLE** (Lotrimin®) cream or **NYSTATIN** (Mycostatin®, Nilstat®) cream:

- Mother should first wash and dry the nipples well.
- Apply cream **four times a day and continue for 1 week after baby's mouth is normal.**

[4] If patient with dentures, advise him to:

- Clean dentures well at the time he is going to use the NYSTATIN.
- Put NYSTATIN medicine on the dentures, too.
 - ☐ if possible, leave the drops on dentures for an hour before putting dentures back in.

[5] Other plan: Now go to plan 4.8 ("General Care for Most Mouth Sores"). Follow parts of that plan which apply.

4.8 Plan: Other Sores in the Mouth and General Care for Most Mouth Sores

[1] Report to your referral dentist or doctor unless the problem is minor and the doctor has signed for you to treat minor mouth sores without contacting him.

- *Always report if:*
 - ☐ you do not know what the assessment is.
 - ☐ patient:
 - has a lot of pain.
 - can not eat or drink.
 - looks very sick.
 - has fever.
 - ☐ a sore stays for 2 weeks or longer. This may be cancer or another serious problem.
- While you are waiting to report, follow this plan.

[2] Medicine may include the following:

- *If needed for pain, fever, or fussiness*, give ASPIRIN OR ACETAMINOPHEN (Tylenol®) (p.416).

- ☐ tell patient NOT to place ASPIRIN on the sore spot for treatment. Doing that will burn the mucous membranes.

- *To help heal sores inside the mouth*, if patient is old enough, it may help for him to rinse the mouth out for 2-3 minutes, three times a day, with ONE of the following:
 - ☐ salt water: Mix ½ to 1 tsp. salt in 1 cup water.
 - ☐ or, baking soda mixture: Mix ½ tsp. baking soda in 1 cup water (less painful than salt water).
 - ☐ or, if assessment is "infected gums" or "thrush," use a mixture of equal parts of HYDROGEN PEROXIDE and water. Mix it up each time it is used.
 - patient with infected gums should also put this mixture on cotton swabs and gently clean the teeth. This will help to kill the bacteria that cause the infection.
- *Before eating*, to numb very painful sores inside the mouth, patient could rinse or apply to the sores one teaspoon of:
 - ☐ a mixture of equal parts of DIPHENHYDRAMINE elixir (liquid Benadryl®) and KAOLIN-PECTIN (Kaopectate®).
 - ☐ or, if you do NOT have KAOLIN-PECTIN, use DIPHENHYDRAMINE alone.
 - tell patient this medicine may burn at first.

[3] Other plan should include the following:

- Diet: Patient should eat a well-balanced diet (p.444), but avoid foods that make the sores hurt a lot, such as hot or spicy foods.
- Recheck minor mouth sores in 2-3 days, sooner if symptoms get worse.

TOOTHACHE

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] What makes it better or worse?

What happens when patient puts something in his mouth that is:

- Hot?
- Cold?
- Sweet?

[2] Does patient have history of other complaints, such as:

- Fever?
- Swelling near the tooth?

- Tender areas near the tooth?
- Loose teeth?
- Swelling of face?

2. Exam

2.1 General appearance.

2.2 Vital signs: T, P.

2.3 Mouth:

[1] Look at teeth, gums, and mouth in general. Note anything abnormal, such as:

- Discolored teeth, cavities.
- Gum inflammation (tender to touch, warm, red, swollen).
- Gums pulling away from teeth (receding).
- Pus seen.

[2] Wear examination gloves. Closely examine the tooth that is hurting and the teeth nearby:

- Check for signs of decay. Use dental mirror and explorer.

- Tap gently on each tooth in that area.
 - ☐ use handle of dental mirror.
 - ☐ note if this hurts patient.
- Feel the gums near the aching tooth. Note tenderness, swelling, pus.
- With your fingers, try to wiggle each tooth in the area.

[3] Feel for lymph nodes under lower jaw. If felt, note location, size, and tenderness.

3. Assessment

3.1 Your assessment should be:

Toothache.

3.2 Try to make a more specific assessment.

- It may be difficult to decide the exact cause of a toothache. Patient may have symptoms that are common to more than one problem.
- Use chart 3.2.

Chart 3.2

Toothache: Common Assessments and Typical Findings

If large cavity/decay seen:

If little or no decay seen:

ASSESSMENTS: TOOTH ABSCESS (Plan 4.1)

- Pain:
- Starts: at any time, when eating/drinking something *hot*, when biting.
 - Does NOT stop after swallowing.
 - Is dull, aching.
 - Lasts a long time.
 - Keeps patient awake.

- Exam may show:
- Fever.
 - Swollen jaw or gum.
 - Pus coming from the gums.

DEEPLY DECAYED TOOTH (Plan 4.2)

- Pain:
- Starts when eating/drinking something hot or cold, or sweet.
 - Stops soon after swallowing.
 - Is sharp, piercing.
 - Lasts short time.
 - Usually does NOT keep awake.

Patient will NOT have fever or swollen jaw.

GUM (PERIODONTAL) DISEASE (Plan 4.3)

- Pain:
- Starts at any time.
 - Feels better with pressure (biting down).
 - Is dull, nagging, itchy, throbbing, lasts long time.
 - Now and then *may* be sharp, lasting a short time.

More than 1 tooth is involved
Gums around tooth:

- **Are red, swollen.**
- **Bleed easily.**

 Breath: smells bad.
 Lots of material on teeth (food, plaque).

Tooth hurts a lot when tapped.

Tooth should NOT hurt when tapped

Tooth may hurt a little when tapped.

Tooth may be loose.

Tooth will probably NOT be loose

More than one tooth may be very loose.

3.3 Include in your assessment that the problem is one of the following:

- **Tooth abscess** (Plan 4.1).
- **Deeply decayed tooth** (Plan 4.2)
- **Gum (periodontal) disease** (Plan 4.3)
- **Other or unknown cause of toothache** (Plan 4.4)

4. Plan

4.1 Plan: Tooth Abscess

[1] Report to your referral dentist or doctor.

- While you are waiting to report, follow this plan.

[2] Medicine may include the following:

- *If patient has fever or swelling of jaw, give an antibiotic:*

Give **PENICILLIN V**

(250 mg./5 ml. suspension or 250 mg. tablets).

- **Four times a day for 7 days:**

Weight	Approximate Age	Dose
Less than 35 lbs.	Less than 4 yrs.	Consult dentist.
35-49 lbs.	4-6 yrs.	200 mg. (4 cc.)
50 lbs. or more	7 yrs. or more	250 mg. (1 tablet)

OR,

If allergic to PENICILLIN:

Give **ERYTHROMYCIN**

(200 mg./5 ml. suspension or 250 mg. tablets)

- **Four times a day for 7 days:**

Weight	Approximate Age	Dose
Less than 35 lbs.	Less than 4 yrs.	Consult dentist.
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

- If needed, for pain:

- ☐ use CLOVE OIL:

Give **CLOVE OIL** (Eugenol):

- Moisten a small piece of cotton (cotton pellet) with CLOVE OIL.
- Place the cotton *into the cavity*.
 - ☐ try NOT to touch CLOVE OIL to gum, because it may burn.
- If needed, patient may replace cotton pellet with CLOVE OIL, every 4 hours.

- ☐ if pain is mild or moderate, give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
- ☐ tell patient NOT to put ASPIRIN on the gum to treat a toothache. Doing that will burn the gum.
- ☐ if pain is severe and you can NOT reach a doctor, give ASPIRIN or ACETAMINOPHEN with CODEINE (p.416).

[3] Other plan should include the following:

- Do NOT put a temporary filling in the cavity. This will make it worse.
- Advise patient to see a dentist as soon as possible. Explain to him that the treatment you have given is only temporary.
- Patient education should include general prevention information on p.233.

[4] Recheck in one day, sooner if getting worse.

- If patient is getting better, recheck in 7-10 days.
- Put patient's name on a list of patients to be seen by the dentist on a field trip.

4.2 Plan: Deeply Decayed Tooth

[1] Report to your referral dentist or doctor.

- While you are waiting to report, follow this plan.

[2] If you know how to put in a temporary filling, and patient can NOT see a dentist soon, do the following:

- Explain that you can put in a temporary filling, but that

afterwards, there is a chance that the tooth will get an abscess. If that happens, patient will:

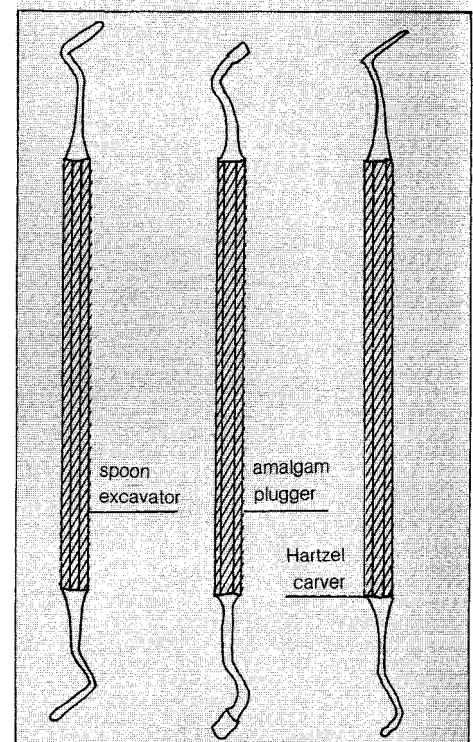
- ☐ get severe pain.
- ☐ have to travel to see dentist.
- Let patient decide if he wants you to put in a temporary filling.
 - ☐ if he wants you to, use chart 4.2.
 - ☐ if he does NOT want you to put in a temporary filling, now go to "[3] If you do NOT put in a temporary filling."

Chart 4.2

PUTTING IN A TEMPORARY FILLING

General instructions:

- If patient lost a filling, first get history, examine, and make an assessment, the same as if he had a toothache.
- Do NOT put in a temporary filling if patient has fever, swelling, or other signs of a tooth abscess.



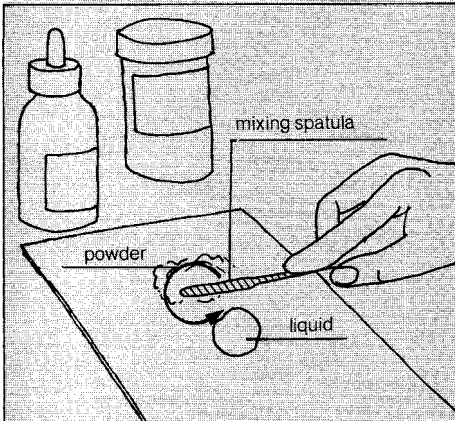
Equipment needed:

Spoon excavator
Cotton pellets
Cotton pliers

Temporary filling materials:
 ZINC OXIDE and EUGENOL (Z.O.E.)
 Mixing pad (or clean paper)
 Mixing spatula (or tongue blade)
 Amalgam plugger
 Hartzel carver

Do the following:

1. Use spoon excavator to remove any soft decayed material. Leave hard, dark material on the tooth.
2. Use cotton pellets to dry the cavity well.
3. Mix up some temporary filling material:
 - Put a small amount of ZINC OXIDE powder on a mixing pad.
 - Add 3-5 drops of EUGENOL liquid to the pad *next* to the powder, **NOT** on the powder.
 - Mix the powder into the liquid:
 - ☐ use small circular movements of the spatula.
 - ☐ mix as much powder into the liquid as possible, so that you get a firm, fairly hard mixture.



- Roll the mixture into small balls.
4. Dry the cavity again with cotton pellets.
 5. Pack the mixture into the cavity.
 - *Do this quickly.* The cement will "set" in 2-3 minutes.
 - Use the amalgam plugger to help you.
 6. Use the Hartzel carver to remove any extra cement from tooth. When patient closes his mouth, teeth should come together normally.

- Patient education should include general prevention information on p.233.
- Put patient's name on a list of patients to be seen by the dentist on a field trip.
- Recheck only if needed. Tell patient to return to clinic as soon as possible if toothache returns and gets worse.
- *If toothache returns or gets worse, do the following:*
 - ☐ report to your referral dentist or doctor. **If you can NOT reach a doctor**, follow this plan until you can.
 - ☐ try to remove the temporary filling. This may hurt patient a lot. If possible, chip out the filling bit by bit.
 - ☐ treat the same as for an abscessed tooth (Plan 4.1).

[3] If you do NOT put in a temporary filling, do the following:

- If needed, for pain:
 - ☐ use CLOVE OIL:

Give **CLOVE OIL** (Eugenol):

- Moisten a small piece of cotton (cotton pellet) with CLOVE OIL.
- Place the cotton *into the cavity*.
 - ☐ try **NOT** to touch CLOVE OIL to gum, because it may burn.
- If needed, patient may replace cotton pellet with CLOVE OIL, every 4 hours.

- ☐ if pain is mild or moderate, give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
- ☐ tell patient **NOT** to put ASPIRIN on the gum to treat a toothache. Doing that will burn the gum.
- ☐ *if pain is severe* and you can NOT reach a doctor, give ASPIRIN or ACETAMINOPHEN with CODEINE (p.416).
- Advise patient to see a dentist as soon as possible. Explain that the treatment you have given is only temporary.
- Patient education should include general prevention information on p.233.

- Recheck only if needed. Tell patient to return to clinic if toothache gets worse.
- Put patient's name on a list of patients to be seen by the dentist on a field trip.

4.3 Plan: Gum (Periodontal) Disease

[1] If patient looks sick or has a fever, he probably has infected gums. Now go to p.227, "Plan: Infected Gums."

- For other patients, follow this plan.

[2] Report to your referral dentist or doctor, unless he has signed for you to treat this problem without contacting him.

- While you are waiting to report, follow this plan.

[3] Patient education should include:

- Teach or remind patient how to brush and floss correctly (p.234), and have patient show you that he knows how.
- Give information in chart 4.3.

Chart 4.3

Patient Education GUM (PERIODONTAL) DISEASE

1. Clean your teeth well 3-4 times a day until the gums are healed.
 - Brush correctly with a soft toothbrush.
 - Use dental floss.
 - Your gums will bleed at first, as you clean areas of plaque that are attached to the gum.
2. Rinse your mouth for 2-3 minutes, four times a day, more often as needed. This will help to clean and heal the gums. Use one of the following:
 - Salt water: 1 teaspoon salt mixed with 1 cup warm water.
 - Baking soda mixture: ½ tsp. baking soda mixed with 1 cup warm water.
 - ☐ this is less painful than salt water.

[4] Recheck as follows:

- Recheck in a few days, sooner if patient is getting worse.
- Explain the problem again.
- Tell the importance of routine brushing and flossing to prevent the problem from coming back.
- Patient education should include general prevention information on p.233.
- Recheck only if needed. Tell patient to return to clinic if not getting better.
- Put patient's name on a list of patients to be seen by the dentist on a field trip.

4.4 Plan: Other or Unknown Cause of Toothache

[1] Report to your referral dentist or doctor.

- While you are waiting to report, follow this plan.

[2] Patient education should include the following:

- Advise patient to see a dentist.
- Give general prevention information on p.233, including:
 - ☐ brushing.
 - ☐ flossing.

[3] Medicine may include the following:

- If needed, for pain:
 - ☐ if pain is mild or moderate, give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ tell patient NOT to put ASPIRIN on the gum to treat a toothache. Doing that will burn the gum.
 - ☐ if pain is severe and you can NOT reach a doctor, give ASPIRIN or ACETAMINOPHEN with CODEINE (p.416).
- If patient has fever or swelling of the jaw, your referral dentist may suggest that you give an antibiotic, the same as for tooth abscess (Plan 4.1).

[4] Recheck as follows:

- Recheck on your next clinic day.
- Repeat the exam you did on first visit.
- Make an assessment and plan.
- Put patient's name on a list of patients to be seen by the dentist on a field trip.

DENTAL DISEASE: GENERAL INFORMATION AND PREVENTION

GENERAL INFORMATION

Cause

Most dental disease is caused by bacteria that live in the mouth. These bacteria:

- Use *sugar* as food.
- Grow on the teeth in a clear, sticky film called plaque.
- Give off:
 - ☐ acids that cause tooth decay.
 - ☐ irritants that cause gum (periodontal) disease.

Tooth Decay

Tooth decay may not bother patient until it has done a lot of damage.

The following is what happens:

- Decay eats through the hard outer enamel.
- Next, decay may quickly eat away at the dentin inside.
 - ☐ a small hole on the surface may be the only sign of a large hole inside.

- ☐ tooth may only feel a little bit sensitive, brought on by sweets.
- When decay reaches the soft center (pulp), a more severe toothache starts:
 - ☐ the nerve is now being destroyed.
 - ☐ pain starts when eating or drinking something hot, cold, or sweet.
- After decay kills the tooth, pain may stop for a while and an abscess may form, causing:
 - ☐ severe pain that starts when eating or drinking something *hot*, when biting down, or at any time.
 - ☐ swelling.
 - ☐ fever.

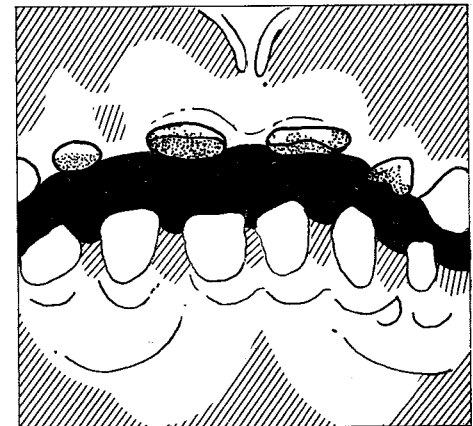
Bottle Mouth

Bottle mouth (nursing bottle mouth) is tooth decay that is caused by:

- Letting baby go to bed with a bottle of milk or a sugary drink.
- Letting baby carry a bottle around all the time, with something in it other than water.

The following is what happens:

- Baby has nipple in his mouth too much of the time.
- If left in the mouth, sugar in juice or milk bathes the teeth.
- Tooth decay is the result:
 - ☐ front upper teeth are the worst.
 - ☐ front lower teeth are OK, because they are covered by the tongue when nipple is in mouth.



Bottle mouth.

Other problems are caused by bottle mouth:

- Toothache.
- Tooth loss.
- Crooked adult teeth.
- Child may have life-long fear of seeing a dentist, because of the pain that these problems cause.

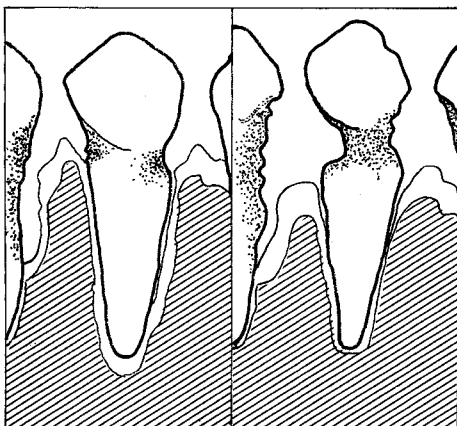
Patient education for preventing bottle mouth should include the following:

- Put **ONLY** milk or water in baby's bottle. Do **NOT** put sweet drinks in a bottle.
- Do **NOT** give child a bottle to sleep with.
- If child "must" have a bottle during sleep, give him only plain water.
- Wean child to a cup by age one.

Gum (Periodontal) Disease

The following is what happens:

- If plaque is **NOT** removed, it will:
 - ☐ build up.
 - ☐ become hard (called calculus or tartar).
 - ☐ irritate the gums more.
 - ☐ cause small pockets to form between teeth and gums.
- Gum disease gets worse:
 - ☐ more plaque builds up.
 - ☐ bacteria irritate more.
 - ☐ small areas get infected.
 - ☐ normal gums and bone are slowly destroyed.



Gum (periodontal) disease destroys normal gums and bone.

- Finally, the bone becomes too weak to hold the teeth. Teeth become loose and weak. They will be lost.

THE CHA/P'S JOB IN PREVENTION

Ask your referral dentist for help and advice.

- In most regions, a dentist or the health corporation is in charge of setting up a preventive dental program.
- Change the information in this section, if needed, according to guidelines in your region.

1. Get Supplies and Instruments

DENTAL

Equipment/supplies needed:

Cotton pellets
Disclosing tablets or solution
Dental floss
Explorer, to check for areas of decay on tooth (pictured on p.382)

FLUORIDE:

- Tablets
- Rinse
- Gel

Instruments for putting in temporary filling (pictured on p.230):

- Amalgam plugger.
- Cotton pliers.
- Hartzel carver.
- Mixing spatula.
- Spoon excavator.

Mixing pad, for temporary filling
Mouth mirror, to look at places that are hard to see

Temporary filling materials: ZINC OXIDE AND EUGENOL (Z.O.E.)
Toothbrushes

2. Screen Patients

This is part of doing health surveillance (p.441). Look for dental problems:

- At well child clinic.
- When you are seeing patients for minor problems.

3. Patient Education

3.1 Get patient education handouts from your referral dentist or other sources.

3.2 Give information in chart 3.2.

Chart 3.2

Patient Education DENTAL DISEASE: PREVENTION

1. Care for your teeth correctly, as described in this section of the manual.
 - Brush every day.
 - Floss every day.
 - Use fluoride.
2. Diet:
 - Eat a well-balanced diet with food from the four food groups every day (p.444), especially foods rich in calcium, vitamin D, and vitamin C (p.448).
 - Prevent bottle mouth, as described above.
 - When you want to eat snacks:
 - ☐ have snacks that are high in fiber and food value, but low in sugar, such as apples, celery, carrots, other vegetables and fruits, plain popcorn, nuts.
 - ☐ avoid foods that are high in sugar (p.446).
 - ☐ if you "must" have a sugary snack, have one that stays in the mouth a short time, one that is quickly chewed and swallowed and does **NOT** stick to teeth.
3. Get dental check-ups:
 - By the CHA/P, as soon as possible when you have a dental problem. Early treatment can prevent pain or loss of the tooth.
 - By the dentist, once a year, starting at age 2½ — 3. Other preventive services may be available, such as:
 - ☐ removing hard plaque (calculus).
 - ☐ painting a *sealant* on teeth to prevent decay from forming.

4. Keep a List of Patients

4.1 When patient has a dental problem:

- Put patient's name on a list of patients to be seen by dentist on a field trip.
- Also encourage patient to take responsibility for his own dental health by getting regular care at the dental clinic in your region.

4.2 Make an appointment for patients on the list to see dentist when he is in town.

USING DISCLOSING TABLETS

Normally, plaque on teeth is hard to see. You can "disclose" or color the plaque by using a disclosing tablet. Doing this will let patient see:

- The harmful plaque that you have told him about.
- Areas on his teeth where he needs to brush better.

Do the following:

[1] Ask patient to brush his teeth.

[2] Give him half of a disclosing tablet.

Tell him to:

- Chew it well, but do NOT swallow yet.
- Mix it with his saliva and swirl the mixture around in his mouth.
- Spit it out or swallow (it is harmless).

[3] Have patient look at his teeth with a mirror, in good light.

[4] Point out the stained areas on his teeth. Explain that:

- The stain shows the plaque that is still on teeth after brushing.
- Plaque causes cavities and gum disease.
- Plaque must be removed every day, or it:
 - ☐ gets glued to teeth and is hard to remove.
 - ☐ causes more and more dental disease.

[5] Remind patient how to brush and floss his teeth correctly.

[6] Ask patient to remove plaque by brushing and flossing his teeth again until he can not see any more stain.

BRUSHING

If done well, brushing teeth will remove plaque from the outer, inner, and biting sides of teeth.

A number of ways to brush are OK. Your referral dentist will tell you if he thinks you should teach something other than the information in chart A.

Chart A

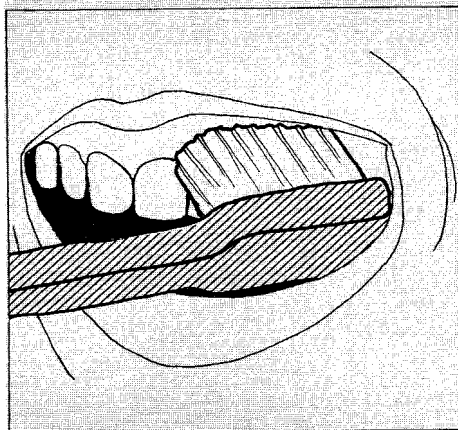
Patient Education BRUSHING YOUR TEETH

General brushing information:

- Use fluoride toothpaste.
- It is best to brush after every meal and at bedtime, especially for children.
- Brush *at least* once a day to remove plaque. The most important time to brush is at bedtime, so sugar does not stay on teeth all night.
- Parents should brush a child's teeth until child is old enough to do it well by himself (about age 5).
- Protect gums and mucous membranes:
 - ☐ **use a soft toothbrush.**
 - ☐ brush gently.
 - ☐ do NOT use a toothbrush that is worn out. Replace the toothbrush every three or four months or as soon as the bristles start to "spread."

When brushing, do the following:

1. Start to brush on the outer side of your teeth. Put toothbrush beside teeth, with bristles angled against gumline at a 45° angle.

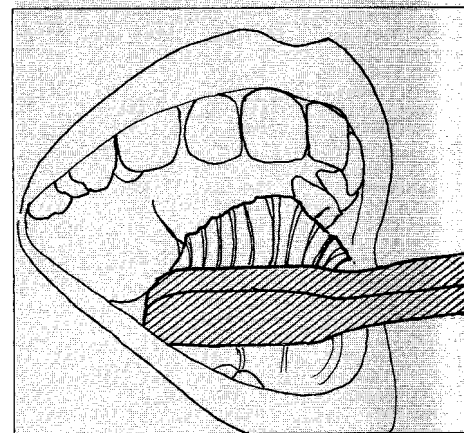


2. Move toothbrush in a tiny circle several times.

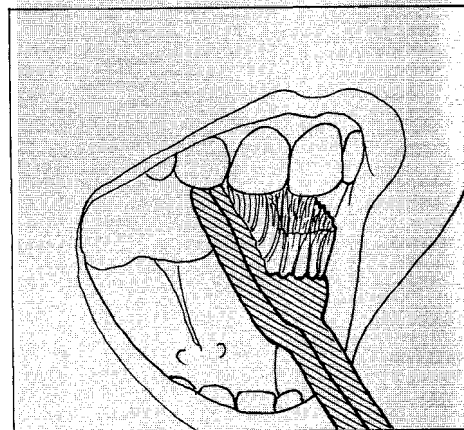
- Bristles should only move a little bit.
- Use a gentle "scrubbing" motion to brush off plaque.
- Brush with only enough pressure so you can feel bristles against the gum.

3. In the same way, brush the outer sides of all teeth, upper and lower.

4. In the same way, brush the *inner* sides of your back teeth, upper and lower.



5. To reach the inner side of your front teeth, upper and lower, hold toothbrush as in the next drawing.



6. Brush the tongue to help freshen your breath.

7. Rinse out your mouth with water to remove what you have brushed off.

FLOSSING

Advise the older child and adult to floss. A number of ways to floss are OK. Your referral dentist will tell you if he thinks you should teach something other than the information in chart B.

If it is difficult for patient to hold dental floss in the way outlined, he may try:

- Tying the two ends of the floss together into a circle and holding onto the floss between each thumb and pointer finger.
- Using a dental floss holder, which may be available through your referral dentist.

Chart B

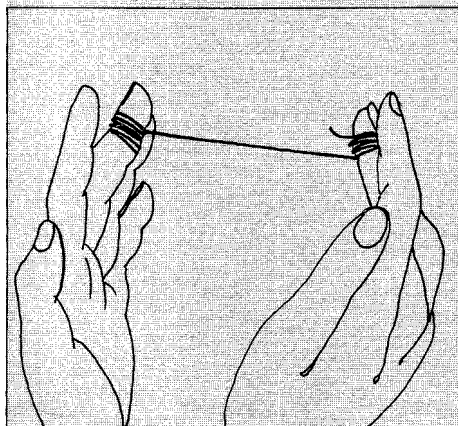
Patient Education FLOSSING YOUR TEETH

General flossing information:

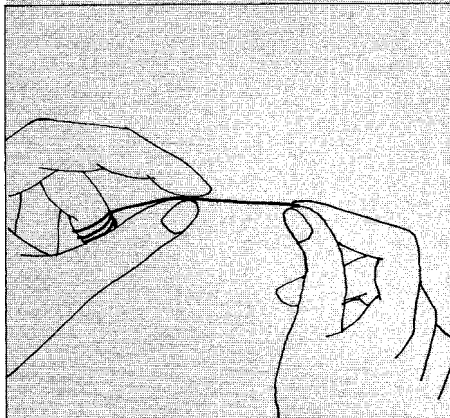
- Using dental floss is the best way to clean *between* your teeth and under the gumline. These places are where:
 - ☐ the toothbrush will not reach.
 - ☐ tooth decay and gum disease often start.
- Flossing may be difficult to do at first. With practice, it will be easier to do and will take only a few minutes.
- Floss once a day, at bedtime.

When flossing, do the following:

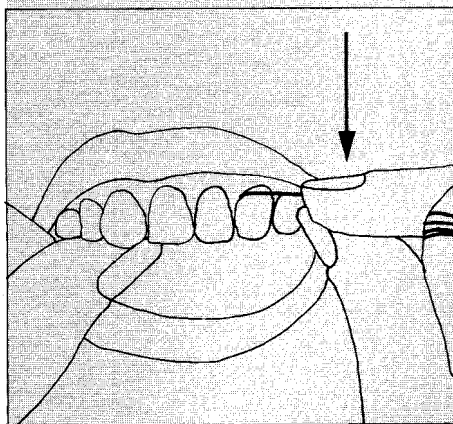
1. Break off about 18 inches of dental floss.
2. Wind most of the floss around one of the middle fingers, as in the next drawing.



3. Use same finger on other hand, to "take up" the floss as you use it.
4. Pinch the floss between each thumb and pointer finger. Leave an inch of floss between your two hands.



5. Hold the floss tightly while you slide floss between your teeth:
 - Use a gentle up and down "sawing" motion.
 - Do NOT "snap" floss into the gums. This may injure the gums.
6. When floss reaches the gumline:
 - Curve it against one tooth, into a C-shape, as in the next drawing.
 - Slide it into the space between gum and tooth:
 - ☐ until you feel it stop.
 - ☐ NOT so deep that it hurts.
7. While holding floss tightly against the tooth, slide floss down the tooth, away from the gum. This will scrape plaque away.



8. Repeat this method on both sides of every tooth.

- Always floss your teeth in the same pattern, so you do not miss any of them.
- Do NOT forget the back side of your last teeth!

USING FLUORIDE

Fluoride binds to the enamel and dentin of growing teeth. This makes teeth harder and more resistant to decay.

Advise parents:

- A complete fluoride program will reduce dental decay in children by over 65%!
- **Children should be given fluoride from birth through age 16.**
- Explain to young children that fluoride makes strong teeth.

At this time, in addition to using fluoride toothpaste, all of the following 3 steps are recommended.

1. Take Fluoride Every Day

1.1 In Water Supply

This is the best way for nearly everyone to get fluoride.

- Patients do not have to remember to take tablets.
- Everyone gets fluoride safely.

If water is fluoridated, the only patients who need to take fluoride drops or tablets are:

- Infants who are breastfed.
 - ☐ breast milk does not contain fluoride.
- Infants who are on ready-to-feed formula.
- Other infants and children who drink less than one quart of fluoridated water a day.

Your sanitarian can give you:

- More information.
- Help in setting up a program for your village.

Your water plant operator can tell you:

- If your water is fluoridated.
- What he does to make sure that the right amount of fluoride is in the water.

1.2 Or As Drops or Tablets

If you can not add fluoride to the village water supply, then every child should get FLUORIDE drops or tablets once a day.

- If less than one year, see "Well Child Care" section for information, p.194.
- If one year or more:

Give **FLUORIDE** tablets.

- Patient should NOT take tablet with milk, or it will not work as well.
- Crush up tablet or chew **once a day**:

Age	Dose
1-3 yrs.	½ tablet
3-16 yrs.	1 tablet

2. Fluoride Rinse Once a Week

School age children should also have fluoride rinse once a week. It is done as follows:

2.1 A small amount of fluoride rinse is put in a cup.

2.2 Child is told to:

- Brush the teeth well.
- Swirl the rinse around in the mouth for one minute.
- Next, spit out the rinse.
- Do NOT eat, drink, or rinse the mouth for 30 minutes.

3. Fluoride Gel Every Few Months

3.1 School age children should also have fluoride gel applied to the teeth four times a year, in the preventive dental program that your dentist sets up.

MUSCULO-SKELETAL INJURIES

Begin here if patient has an injury related to the musculoskeletal system (muscles, tendons, bones, joints). This section includes the following problems:

- Broken bone (fracture).
- Dislocation (out of joint).
- Sprain (ligament injury).
- Muscle strain.
- Bruise (contusion) or other soft tissue injury **WITHOUT** broken skin.
 - ☐ for soft tissue injury **WITH** broken skin, see "Wounds," p.339.

1. Begin Emergency Care

1.1 First, check ABC's: Airway, Breathing, Circulation.

1.2 Control severe bleeding.

1.3 *If possible head, neck, or back injury*, splint neck and back to prevent movement (p.243).

1.4 Position: Keep patient lying down, to prevent fainting or shock.

1.5 Check vital signs: P, R, BP.

- If shock (weak, fast pulse; low BP), now go to p.7.

- If serious injury:

- ☐ if possible, check P & BP with patient lying down, then sitting up. Treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.
- ☐ plan to have helper recheck vital signs at least every 15-30 minutes, until they have been normal for two hours.

1.6 Now, for the following specific injuries, go to the page listed. Injuries are listed in order of recommended treatment:

- Chest injury (p.291).
- Abdominal injury (p.61).
- Head injury (p.259).

- Eye injury (p.101).
- Jaw or tooth injury (p.223).
- Nose injury (p.296).

1.7 Remember to splint fractures before moving patient.

1.8 If injury is on a hand or arm, while you get history and examine, have a helper remove jewelry (rings, bracelets) to prevent damage if the hand swells.

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Find out about the accident and the injury:

- Exactly what happened?
 - ☐ what caused the injury?
 - ☐ was it related to alcohol or other drugs?

- Did patient faint (pass out)?

- Ask patient to point with one finger to where it hurts.

- Can patient feel a broken bone if he moves the injured part?

- If patient is a child, does he refuse to use the injured part?

- Does patient have other injuries?

[2] Does patient have any other complaints, such as:

- Nausea?
- Symptoms of shock: feeling weak, tired?
- Unable to feel or move his arms or legs?

[3] When did patient eat last?

2.2 Past Health History

[1] Illnesses?

[2] What medicines is patient taking now?

[3] Allergies?

[4] When was last TETANUS shot?

3. Exam

Be careful not to move the injured part as you examine.

3.1 General appearance.

3.2 If needed, do a body survey (p.9) to check for other injuries.

3.3 Examine the injury closely. If necessary, cut clothing (at the seams, if possible). Compare one side of body to the other:

- Appearance.
- Feel for tenderness:
 - ☐ start away from the painful area. Slowly work toward it.
 - ☐ feel as much of a bone as you can. For example, feel along the whole length of shin bone.
- If bone tenderness:
 - ☐ pick a place where the skin is not injured and press again.
 - ☐ if patient has bone pain even when you press the bone over normal skin, this may mean that bone is broken.
- If there is a wound, examine it closely:
 - ☐ location.
 - ☐ size and shape.
 - how deep does it look?
 - ☐ is it discolored or swollen?
 - ☐ what type of wound is it (straight cut, puncture wound, other)?
 - ☐ is it dirty?

3.4 *If injury is on an arm or leg*, check beyond (distal to) the injury, and compare both sides of the body:

- Check nerves:
 - ☐ can patient feel your light touch or a poke with a safety pin?
 - ☐ is his feeling the same as on the good side?
- Check tendons:
 - ☐ can he move in all of the normal directions?
- Check blood supply:
 - ☐ how is the color beyond the cut?
 - ☐ press on the skin. When you let go, skin color will look white. Does color return normally, within two seconds (good capillary refill)?
 - ☐ check pulse beyond the injury.
 - if pulse NOT felt on top of foot (DP), check pulse behind medial ankle bone (PT).

3.5 Lab test:

- Hemoglobin, if patient lost a lot of blood or if he may have a large broken bone (thigh, hip, pelvis).
 - ☐ hemoglobin level may be normal

at first. It is important to check it NOW, to compare with level after some time has passed.

4. Assessment

4.1 Your assessment should be:

Musculoskeletal injury.

4.2 Make a more specific assessment. Use chart 4.2.

4.3 Include in your assessment that the injury is one of the following:

- **Fracture:**
 - ☐ **open fracture** (skin is also broken; Plan 5.1).
 - ☐ **closed fracture or possible fracture** (Plan 5.2).
- **Dislocation** (Plan 5.3).
- **Sprain** (Plan 5.4).
- **Muscle strain** (Plan 5.5).
- **Other soft tissue injury (bruise, swelling)** (Plan 5.6).

5. Plan

5.1 Plan: Open Fracture

An open fracture (where the skin is also broken) is much more serious than a closed fracture. Patient may get a serious bone infection (osteomyelitis).

[1] Report NOW to your referral doctor. Begin the following treatment while someone else contacts the doctor.

If you can NOT reach a doctor, have someone arrange for transport to hospital as soon as possible.

[2] Wash/irrigate very well, cover, and splint:

- If you do not have sterile fluids for rinsing, have a helper boil water for 5 minutes and remove it from heat.
- Wash your hands well.
- Put on sterile gloves, and clean the wound (p.344).
- Irrigate the wound well, *with force*:
 - ☐ use a 10-20 cc. syringe and a 19-22 gauge needle or I.V. catheter.
 - ☐ irrigate with at least three quarts of fluid.
- Cover the wound with a sterile dressing.
- Splint (p.249).

[3] Medicine may include the following:

- If patient has NOT had a TETANUS booster shot in the past 10 years:

Give I.M. booster shot of **TETANUS TOXOID and DIPHTHERIA (Td)**.

- **Dose: 0.5 cc. I.M.**

- Start an antibiotic, to prevent infection. *Antibiotics are listed in order of recommended treatment.* Give ONE of the following choices:

Give I.M. shot of **CEFTRIAXONE** (Rocephin®, 250 mg./ml.).

- See "Mixing Powdered Medicines for Injection," p.421.
- Read instructions carefully on how to mix the medicine.
- **Plan to give shot every 12 hours:**

Weight	Approximate Age	Dose
Less than 25 lbs.	Less than 18 mo.	Consult doctor.
25-31 lbs.	18 mo. thru 2 yrs.	500 mg. (2 cc.)
32-39 lbs.	3-4 yrs.	625 mg. (2½ cc.)
40-54 lbs.	5-7 yrs.	750 mg. (3 cc.)
55-99 lbs.	8-12 yrs.	1,000 mg. (4 cc.)
100 lbs. or more	13 yrs. or more	1,000 mg. (4cc.) OR 2,000 mg. every 24 hrs.

OR:

Give an I.M. shot of **PROCAINE PENICILLIN** (Wycillin®).

- **Plan to give shot every 12 hours:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	150,000 Units
15-24 lbs.	4-17 mo.	300,000 Units
25-34 lbs.	18 mo. thru 3 yrs.	450,000 Units
35-49 lbs.	4-6 yrs.	600,000 Units
50 lbs. or more	7 yrs. or more	1,200,000 Units

OR:

Give **ERYTHROMYCIN** (200 mg./5 ml. suspension or 250 mg. tablets).

- **Plan to give every 6 hours:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	60 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80 mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

- If needed for pain, give ASPIRIN OR ACETAMINOPHEN (Tylenol®) (p.416).

- ☐ *if pain is severe*, you can NOT reach a doctor, and patient is NOT in shock, give an I.M. shot of MEPERIDINE (Demerol®) or MORPHINE (p.417).

Chart 4.2

Bone/Joint/Muscle Injuries: Some Assessments and Typical Exam Findings

Assessment	Shape of Bone/ Joint	Swelling/Bruising	Movement of Hurt Part	Tender to Touch
CLOSED FRACTURE [broken bone; skin is not broken] (Plan 5.2)	Bone may be out of shape compared to normal side.	Usually a lot, especially over time.	Patient usually can not move normally. May feel/hear a grating sound.	Bone is tender in one spot, even when pressing another area of bone.
DISLOCATION [out of joint] (Plan 5.3)	Joint out of shape compared to normal side.	Some.	Patient cannot move joint.	Joint is tender.
SPRAIN [ligament injury] (Plan 5.4)	Normal.	Yes, sometimes a lot.	Patient can move joint, but it hurts. One side of joint may be loose.	Yes, both above and below the joint.
MUSCLE STRAIN (Plan 5.5)	Normal.	Usually not much.	Muscle hurts when patient moves it.	Muscle is tender, especially when stretched.

[4] Transport patient to hospital as soon as possible. While you are waiting to transport, your plan should include the following:

- Elevate a broken arm or leg above level of the heart.
- Apply cold packs (ice, placed in plastic bag and wrapped in a towel). Apply for 20 minutes.
 - ☐ repeat, on and off, to reduce swelling and pain.
- Recheck:
 - ☐ vital signs: T, P, R, BP.
 - ☐ injured area. On an arm or leg, check beyond the injury:
 - appearance (swelling).
 - feeling (sensation).
 - movement.
 - blood supply (color, pulse).
- Loosen the splint if it is cutting off circulation.
- If transport is delayed, recheck at least every 6-12 hours, more often if needed.

5.2 Plan: Closed Fracture or Possible Fracture

[1] Splint as on p.249.

[2] Report to your referral doctor.

- Report NOW if you think this is a serious fracture.
- While you are waiting to report, follow this plan.

[3] Decide if emergency transport is needed. Use the following guidelines:

- Arrange for transport as soon as possible if you can NOT reach a doctor AND patient has any of the following:
 - ☐ a fractured spine, pelvic bone, hip, or thigh.
 - ☐ signs of poor circulation in an arm or leg: unusual blue color, coolness of the skin to the touch, weak pulse or no pulse.
 - ☐ numbness, inability to move fingers or toes, or other signs of nerve damage.
 - ☐ other serious injury.
- Most other patients with fractures should be seen at the hospital, but they do NOT need emergency transport.
 - ☐ they should be seen at the hospital within a week.
- If you are NOT sure that bone is broken, plan to observe patient in the village.
 - ☐ at first, it is often difficult to diagnose a fracture. Findings on recheck exams will help you to decide.

[4] Patient education should include the following:

- Patient should rest the injured part.

- To reduce swelling and pain patient should do the following:

- ☐ elevate an injured arm or leg above level of the heart. When sitting or lying, he should rest it on a soft, firm support.
- ☐ for the first 1-2 days, apply cold packs (ice, placed in plastic bag and wrapped in a towel). Apply for 20 minutes. Repeat as needed.
- ☐ after 1-2 days, apply heat for 20 minutes, about four times a day.
- Patient should return to clinic immediately if he has any danger signs: pain getting much worse, numbness, poor color, cool skin.

[5] Other plan should include the following:

- If patient needs crutches, fit them properly and give patient education (p.255).
- If needed for pain, give ASPIRIN OR ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ if pain is severe and you can NOT reach a doctor, give ASPIRIN OR ACETAMINOPHEN (Tylenol®) with CODEINE (p.416).

[6] Recheck as follows:

- Recheck once a day, sooner if patient is having problems.

- Examine:
 - ☐ vital signs: T, P, R, BP.
 - ☐ injured area. On an arm or leg, check beyond the injury:
 - appearance (swelling).
 - feeling (sensation).
 - movement.
 - blood supply (color, pulse).
- Loosen the splint if it is cutting off circulation.
- If patient is feeling better and you think the bone is NOT broken, patient should slowly begin to use the injured part.
- *If injury is still painful after 4-7 days*, your referral doctor will probably suggest that patient come to hospital for exam and X-rays.
- When the time is right, talk about accident prevention. *If problem is related to alcohol or other drug abuse*:
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

5.3 Plan: Dislocation

A dislocation should be reduced as soon as possible.

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.
- Have someone arrange for transport to hospital as soon as possible.

[2] Decide if you should reduce the dislocation when you can NOT reach a doctor:

- Try to reduce the dislocation only if the following is true:
 - ☐ an arm or leg is becoming blue, cold, or numb because of poor circulation.

AND

- ☐ the dislocation is one that you feel confident you can reduce easily.
- For reducing jaw, shoulder, elbow, or finger dislocations, see p.241 (at end of this section).

[3] Special care for all should include the following:

- Splint (p.249).
- Apply cold packs (ice, placed in plastic bag and wrapped in a towel). Apply for 20 minutes.
 - ☐ repeat, on and off, to reduce swelling and pain.

[4] If you do NOT reduce the dislocation, while you are waiting to transport, your plan should include the following:

- Recheck:
 - ☐ vital signs: P, R, BP.
 - ☐ dislocated joint. On an arm or leg, check beyond the joint:
 - appearance (swelling).
 - feeling (sensation).
 - movement.
 - blood supply (color, pulse).
- Loosen the splint if it is cutting off circulation.
- *If pain is severe* and you can NOT reach a doctor, give an I.M. shot of MEPERIDINE (Demerol®) or MORPHINE (p.417).
- If transport is delayed, recheck at least every 6-12 hours, more often if needed.

[5] If you DO reduce the dislocation, and patient is doing OK, your plan should include the following:

- Patient probably should still be seen at the hospital for X-ray, but does NOT need emergency transport.
- To reduce swelling and pain, patient should do the following:
 - ☐ rest the injured part.
 - ☐ elevate an injured finger or elbow above level of the heart. When sitting or lying, he should rest it on a soft, firm support.
 - ☐ for the first 1-2 days, continue cold packs (ice, placed in plastic bag and wrapped in a towel). Apply for 20 minutes. Repeat as needed.
 - ☐ after 1-2 days, apply heat for 20 minutes, about four times a day.
- If needed for pain, give ASPIRIN OR ACETAMINOPHEN (Tylenol®) (p.416).
- Patient should return to clinic immediately if he has any danger signs: pain getting much worse,

numbness, poor color, cool skin.

- Recheck an arm at least once a day (more often as needed) for the first 3 days. Check:
 - ☐ vital signs: P, R, BP.
 - ☐ injured part. On an arm or leg, check beyond the joint:
 - appearance (swelling).
 - feeling (sensation).
 - movement.
 - blood supply (color, pulse).
- Loosen the splint if it is cutting off circulation.
- When the time is right, talk about accident prevention. *If problem is related to alcohol or other drug abuse*:
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

5.4 Plan: Sprain

[1] Report to your referral doctor unless the sprain is mild and the doctor has signed for you to treat this problem without contacting him.

- While you are waiting to report, follow this plan.
- *For most sprains*, treat the same as for possible fracture. Now go to plan 5.2. Follow the parts of that plan which apply.
 - ☐ plan to recheck every two days, more often if needed.
- *If the sprain is very mild*, wrap it with an elastic bandage (Ace®) and treat the same as for other soft tissue injuries (plan 5.6).

5.5 Plan: Muscle Strain

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Special care depends on the specific injury:

- *If low back pain* with muscle strain, go to p.248.
- *If severe*, with much pain, swelling, and tenderness in one spot, treat the

same as for possible fracture. Now go to plan 5.2. Follow the parts of that plan which apply.

- ☐ in addition, tell patient to massage sore muscles to help muscle spasm.
- If mild, treat the same as for other soft tissue injuries (plan 5.6, which follows).
- ☐ in addition, tell patient to massage sore muscles to help muscle spasm.

5.6 Plan: Other Soft Tissue Injury (Bruise, Swelling)

[1] Report to your referral doctor unless the injury is minor and the doctor has signed for you to treat this problem without contacting him.

- While you are waiting to report, follow this plan.

[2] Special care depends on the specific injury:

- If severe, with much pain, swelling, and tenderness in one spot, treat the same as for possible fracture. Now go to plan 5.2. Follow the parts of that plan which apply.
 - If minor bruise or swelling, do the following:
 - ☐ give patient education:
 - rest the area.
 - elevate an injured arm or leg above level of the heart.
 - for the first 1-2 days, apply cold packs (ice, placed in plastic bag and wrapped in a towel). Apply for 20 minutes. Repeat as needed.
 - after 1-2 days, apply moist heat (a warm, wet towel). Apply for 20 minutes, about four times a day.
 - ☐ if needed for pain, give ASPIRIN OR ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ recheck in three days, sooner if symptoms get worse.
 - ☐ when the time is right, talk about accident prevention. If problem is related to alcohol or other drug abuse:
 - remind patient kindly of this.
 - talk with patient about the alcohol or drug problem.
- Follow the plan on p.204.

General Information/Definitions

A *fracture* is any crack or break in a bone. A bone may break in a place that is away from where patient was hit.

Example: a patient can fall on his hand and break the collarbone.

- A *closed fracture* is a fracture where the skin is not broken.
- An *open fracture* is a fracture where the skin is also broken. Examples:
 - ☐ bone is sticking through skin.
 - ☐ cut is on skin over fracture.
 - ☐ gunshot wound plus fracture.

A *dislocation* means that the bone is out of joint. One of the bone ends is pushed away from its normal position. The bones may be trapped in the new position or may "pop" back into the right place.

Examples of bones that commonly dislocate: jaw, shoulder, elbow, finger, hip, and ankle.

A *sprain* is an injury to a ligament. Since a ligament helps to hold a joint together, this is considered an injury to the joint. A sprain happens when a joint is forced beyond its normal range of motion. The bones are not dislocated. Example: a sprained ankle or knee.

A *strain* is an injury to a muscle or tendon. The tissue may be bruised or even torn. It is caused by overstretching. Example: low back strain.

Reducing Certain Dislocations

It is easiest to reduce a dislocation soon after the injury, before muscle spasm happens.

Always report first to your referral doctor.

If you can NOT reach a doctor, you should try to reduce a dislocation only if the following is true:

- An arm or leg is becoming blue, cold, or numb because of poor circulation.

AND

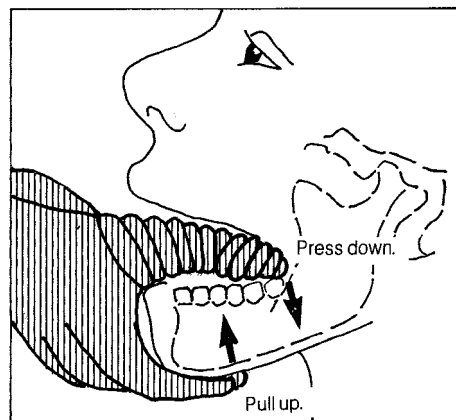
- The dislocation is one that you feel confident you can reduce easily.

After you reduce the dislocation, be sure to follow the plan for dislocations above (p.240).

Jaw Dislocation

Do the following:

- [1]** Pad and wrap your thumbs well.
- [2]** Have patient sit.
- [3]** Place your thumbs into patient's mouth as in next drawing.
- [4]** Snap the jaw back in as follows:
 - With your thumbs, press down just behind the last molar teeth.
 - At the same time, lift up on the chin with your fingers.
 - Jaw should snap back in.



[5] If jaw does not snap back into place, do it in steps:

- Alternate pressure from side to side. Press on one side, next press on the other.
- In this way you can "walk" the jaw back in, bit by bit.

[6] Patient education should include telling patient to avoid opening his mouth wider than normal.

Shoulder Dislocation

First, be sure patient has the common signs of a dislocated upper arm bone (humerus):

- ☐ loss of regular shape of shoulder. Flattening of the upper arm muscle (deltoid muscle).
- ☐ limited movement of shoulder.
- ☐ elbow held 3-4 inches from side.
- ☐ fullness in front of shoulder.

Do the following:

[1] Have patient lie down.

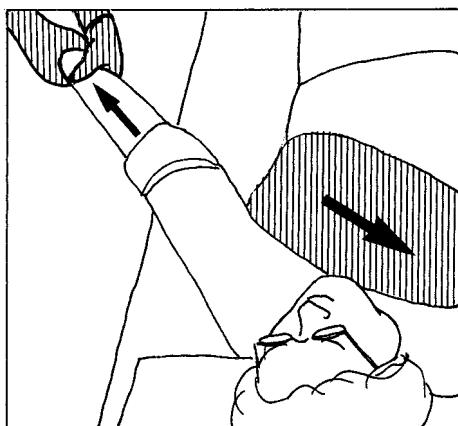
[2] Wrap a sheet around his upper chest, as in the next drawing.

[3] Have a helper pull on the sheet as you pull on patient's arm.

- Pull straight back, along the long line of the arm.
- Pull gently at first, and gradually increase the amount of pull.
- Be patient. Continue to pull.

[4] If needed, as you pull, do the following:

- Bend the elbow slightly.
- Gently twist the arm away from the body.



[5] After the arm goes into place:

- Move the arm so that elbow is resting on chest.
 - ☐ this should be easy to do and should NOT cause pain.

- Place arm in a sling.
- Splint (bind) sling to chest.

[6] Patient will need an X-ray, and may need to wear the bandage:

- For 3 weeks if this is shoulder's first dislocation.
- Until comfortable, if dislocation is recurrent.

Elbow Dislocation

You may injure nerves or blood vessels. Do NOT try to reduce an elbow dislocation unless the arm is becoming blue, cold, or numb because of poor circulation AND your referral doctor tells you to.

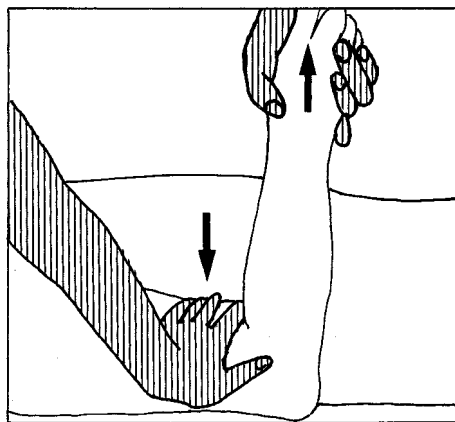
Do the following:

[1] Have patient lie down.

[2] With one hand, hold upper arm down.

[3] With other hand, pull straight up on forearm, as in the next drawing.

- Pull gently at first, and gradually increase the amount of pull.



[4] After the elbow goes into place, place arm in a sling.

[5] Patient will need an X-ray as soon as possible.

Finger Dislocation

Do the following:

[1] Pull on the finger.

- Pull along the normal long line of the finger.
- Pull gently at first, and gradually increase the amount of pull.

[2] When finger is in correct position, splint it in "position of function": bent as if patient were holding a ball.

SPINE INJURIES (Neck or Back)

General Approach

A spine injury may be hard to diagnose. *If there is a chance that patient has a neck or back injury, treat him as if he does!*

Treat the accident patient as if he has a spine injury, especially in these situations:

- Unconscious patient.
- Head injury.
- Driving accident.
- Diving accident.
- Fall.
- Airplane accident.

Prevent further damage to the spinal cord. Feeling and movement usually do NOT come back after they have gone. Remember that you must protect (do not move) this patient's neck and back:

- Keep patient's neck and back straight during your exam and treatment.
- As soon as possible, and before moving, splint neck and back.

1. Begin Emergency Care

1.1 Check airway and breathing. If needed, open airway:

- If patient is NOT breathing and is not lying flat on his back, roll him over carefully, keeping his neck and back straight (shown on p.9).
- Push jaw forward (jaw-thrust) *without* moving the neck (shown on p.4).
- If jaw thrust is not working, it may help to suction patient's mouth with bulb syringe or wipe out his mouth.

1.2 Keep airway open.

- If patient vomits at any time, do the following:

- ☐ turn him on his side. You should have 3 helpers to do this correctly, without moving head, neck, or back.
- ☐ sweep out his mouth.

1.3 Check circulation.

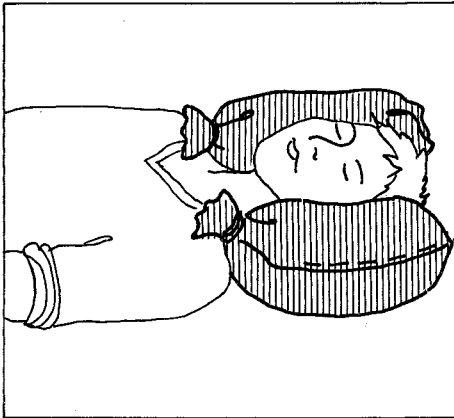
1.4 Control severe bleeding.

2. Splint the Neck and Back

Prevent movement of head, neck, and back.

2.1 If you are alone, apply a temporary neck splint to keep the head and neck from moving:

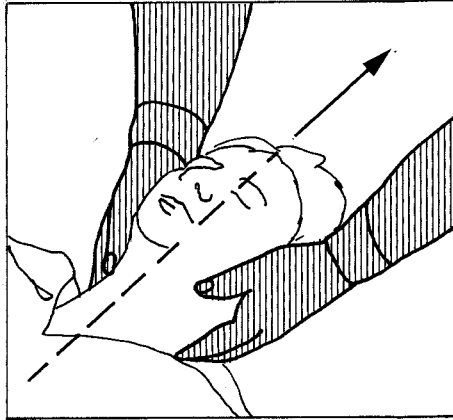
- Place sandbags, rolled up clothing, or something similar on both sides of the head.



2.2 When you have help, apply traction, cervical collar, and backboard as follows:

[1] Apply traction to neck:

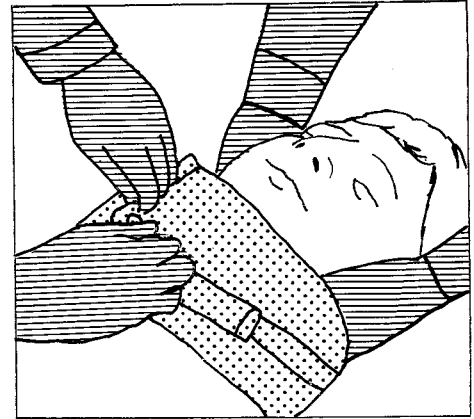
- The most skilled person (CHA/P, EMT, other) should place one hand on each side of patient's head, as in the next drawing.
- To provide traction, lean back, pulling on the head *in line with the spine*.
 - ☐ if the neck is at an odd angle, gently straighten it by applying traction.
- Continue traction until patient's head is tied down to a backboard.



[2] Gently apply a cervical collar:

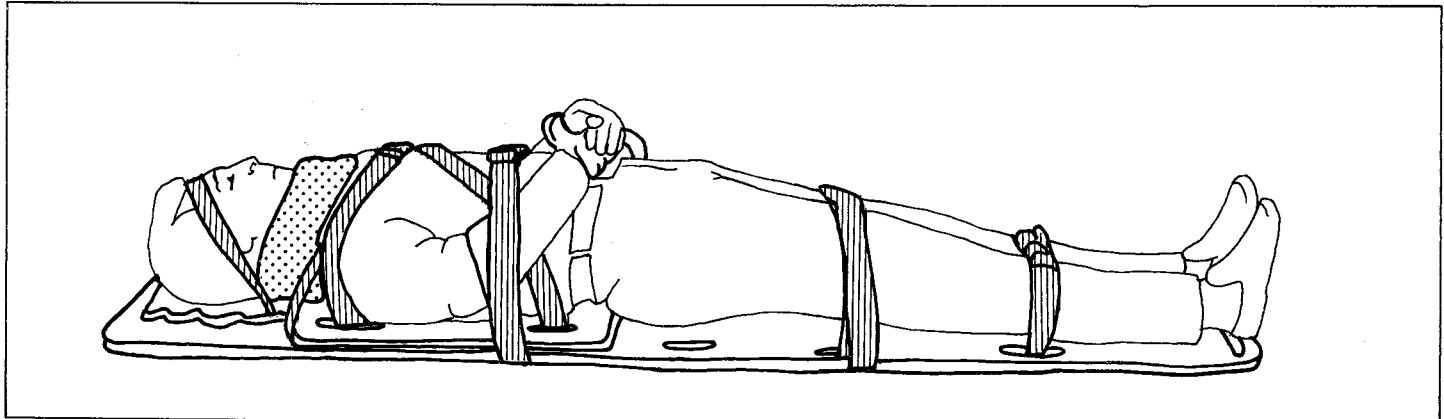
- Be careful not to move the neck or put pressure over the windpipe.
- While the first person continues traction, the helper should apply a cervical collar.
- If you do NOT have a ready made collar:
 - ☐ make a collar from towels, jackets, or similar material.

- ☐ hold it on with a belt or other ties, as in the next drawing.



[3] Apply a backboard:

- Move patient onto a well-padded backboard, door plank, or something similar.
 - ☐ the person applying traction at the head is in charge.
 - ☐ move patient as a unit.
 - do NOT bend the spine.
 - ☐ place backboard under patient, using the method that works best for you:
 - log roll.
 - straddle lift.
 - four person lift.
- Strap patient well to the backboard:
 - ☐ continue to keep the spine straight as you splint.
 - ☐ patient should be strapped well enough so that if he vomits, you can roll the backboard on its side and he will not move.
 - ☐ be sure to put a tie across the forehead, so the head and neck can NOT move at all.



3. Vital Signs: P, R, BP

3.1 If shock (weak, fast pulse; low BP):

- Elevate foot of backboard about 12 inches.
- Now go to p.7. Use LACTATED RINGER'S I.V. fluid, if available.

3.2 Plan to have helper recheck vital signs at least every 15-30 minutes, until they have been normal for two hours.

4. History

4.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Find out about the accident that caused the injury:

- Exactly what happened?
 - ☐ what caused the injury?
 - ☐ was it related to alcohol or other drugs?
- Did patient faint (pass out)?
- Does patient have other injuries?

[2] Does patient have any other complaints, such as:

- Pain? If so, find out more.
 - ☐ is the pain worse when he moves?
- Symptoms of shock: feeling weak, tired?
- Nausea?
- Unable to feel or move his arms or legs?
- Arms or legs feel numb or tingling?

[3] When did patient eat last?

4.2 Past Health History

[1] Illnesses?

[2] What medicines is patient taking now?

[3] Allergies?

5. Exam

5.1 Repeat vital signs: P, R, BP.

5.2 Do a body survey (p.9).

Especially check:

- Neck and back:
 - ☐ appearance. Note all injuries, even minor bruises and scrapes (may show where there is damage).
 - ☐ try to gently feel every bone of the spine for tenderness.

5.3 Nervous system. Check certain parts of the nervous system that you did not check with body survey:

- Mental status (mind):
 - ☐ orientation. Ask patient:
 - "What is your name?"
 - "Where are you now?"
 - "What is the date?"
 - ☐ memory. Can patient remember:
 - the accident?
 - what was happening just before and just after the accident?
- Reflexes:
 - ☐ tendon reflexes:
 - biceps, in front of elbow.
 - knee jerk.
 - ankle (heel).
 - ☐ bottom of foot (Babinski, p.409): Do all toes move down (normal) when you run something hard along bottom of foot, from heel toward toes?

6. Assessment

6.1 Your assessment should be **Possible spinal cord injury** if accident patient has any of the findings listed in chart 6.1.

7. Plan

7.1 Report NOW to your referral doctor. Give other emergency care while someone else contacts the doctor.

If you can NOT reach a doctor, have someone arrange for transport to hospital as soon as possible.

7.2 Other emergency care should include:

- Splint other broken bones (p.249).
- Care for wounds as on p.339.

Chart 6.1

POSSIBLE SPINAL CORD INJURY: TYPICAL FINDINGS

History:

- History of an accident likely to cause an injury to the spine.
- Pain over the spine (neck or back).
- Tingling or numbness in arms or legs.
- Any other symptoms that make you suspect an injury to the spine.

Exam:

- May be unconscious.
- Neck or backbone:
 - ☐ a different shape.
 - ☐ very tender to touch, or an unusual bony bump.
- Arms and legs:
 - ☐ movement, strength or feeling (sensation): abnormal.
- Reflexes: abnormal.

7.3 Transport patient to hospital.

While you are waiting to transport, your plan should include the following:

- Stay nearby.
- Reassure patient.
- Observe airway and breathing.
 - ☐ keep a suction bulb near, to suction mouth and throat if needed.
 - ☐ begin rescue breathing, if needed.
- Diet: Nothing by mouth.
- Recheck vital signs (P, R, BP) at least every 15-30 minutes.
- If patient is unconscious, keep eyes closed to prevent injury from drying.

Spinal Cord Injury: General Information

Understanding the injury:

- Loss of feeling and movement in the feet *and* hands means there is an injury to the spinal cord in the neck.
- Loss of feeling and movement in the feet only (hands are OK) means there is an injury to the spinal cord in the back.

If the neck is broken, many nerves can be hurt. The muscles in the chest that help patient breathe may not work. The diaphragm usually works, but breathing and cough may be weak.

The blood pressure is controlled in part by nerves that make small blood vessels relax and tighten. If the spinal cord is damaged, patient may get low BP (shock).

MUSCULO-SKELETAL PROBLEMS

Begin here if patient has chief complaint related to the musculoskeletal system (muscles, tendons, bones, joints) OTHER than a wound (p.339), obvious injury (p.237), or chest pain (p.19). This section includes the following problems:

- Joint pain (arthritis).
- Joint swelling.
- Child does not use an arm or leg.
- Limp.
- Low back pain.
- Bone pain.
- Muscle aches.

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** What makes it better or worse?
 - Warm packs?
 - Does ASPIRIN help?
- [2]** Does patient have other problems of the muscles or bones, such as:
 - Swelling?
 - Muscle cramps?
 - Neck pain or stiff neck?
 - Joint pain (arthritis)?
 - Joint swelling?

- Low back pain? If so, also ask about other symptoms:
 - ☐ constipation?
 - ☐ menstrual cramps?
- Numbness, tingling, weakness, or trouble moving an arm or leg?
- Other problems with muscles, joints, bones?

[3] Recent history:

- Injury to the problem area?
- Gonorrhea or other VD?
- Drinking alcohol or taking illegal ("street") drugs? If so:
 - ☐ what?
 - ☐ when?
 - ☐ how much?
 - ☐ maybe he forgot an injury.

1.2 Past Health History

[1] Illnesses, including:

- Heart trouble?
- Diabetes?

[2] Operations: Surgery on the area?

[3] Serious injuries or accidents, including frostbite of the area?

[4] Medicines:

- What medicines is patient taking now?

1.3 Other History

[1] Does patient have other complaints, such as:

- Feeling sick, weak, tired?
 - ☐ if a baby: fussy?
- Fever or chills?
- Urinary problems?
- Discharge from penis or vagina?
- Mental health problems, such as:
 - ☐ feeling very nervous (anxious)?
 - ☐ having lots of worries, stress?
- Skin problem (itching, sores, rash)?

2. Exam

2.1 General appearance, including posture.

2.2 Vital signs: T, P, R, BP.

2.3 Weight.

2.4 If problem involves more than one muscle, tendon, bone, or joint:

- Do a screening physical exam (p.368).
- Also check appearance and movement of the following joints:
 - ☐ neck.
 - ☐ shoulders.

- ☐ elbows.
- ☐ wrists.
- ☐ fingers.
- ☐ back.
- ☐ hips.
- ☐ knees.
- ☐ ankles.
- ☐ feet.

2.5 If back pain, examine the following:

- Chest: Breath sounds.
- Back (p.388). Have patient stand, if possible, and examine the following:
 - ☐ appearance.
 - ☐ soft tissues and spine bones.
 - feel for tenderness.
 - ☐ movement of back. Tell patient: "Bend as far as you can without causing pain."
 - have patient bend forward.
 - hold pelvis and have patient bend sideways, bend backwards, and twist shoulders.
 - ☐ hit gently in each kidney area to check for tenderness. If NOT tender, hit a little harder (CVA tenderness, p.389).
 - ☐ if low back pain, check straight leg raising (p.389):
 - with patient laying on back, slowly raise leg.
 - if this does not hurt much, with the leg raised, bend the ankle toward the knee.
- Abdomen: Feel for tenderness.
- Legs:
 - ☐ feeling (sensation) with light touch.
 - ☐ tendon reflexes:
 - knee jerk.
 - ankle (heel).
- Lab test. Urine dipstick for:
 - ☐ infection (leucocytes/white blood cells or nitrite).
 - ☐ blood.

2.6 For other problem areas, examine carefully. As you examine, compare one side of body to the other:

- Appearance:
 - ☐ size and shape.
 - if different size of one arm or leg, measure both sides at the same spot on each.
 - ☐ skin.
 - ☐ veins.

- Soft tissues. Check skin, muscles, veins, and other soft tissues in areas where there is a problem:

- ☐ feel lightly, on surface, for:
 - temperature.
 - tenderness.
- ☐ feel deeper. For example:
 - squeeze nearby muscles.
 - feel tendons.
- ☐ feel for enlarged lymph nodes in the area (p.385). If felt, note size, tenderness, and if movable.
- ☐ if calf pain or tenderness, check for deep leg vein problems:
 - with leg straight, quickly push ball of foot (widest part) toward the knee, bending the ankle (p.397). Does this cause pain in the calf?
- ☐ if swollen area, check for pitting edema: Press thumb firmly into skin for 1-2 seconds (p.412).
- Bones: Feel for bone tenderness.
- Joints:
 - ☐ check movement of nearby joints.
 - if knee pain, also examine hip.
 - ☐ if joint problem, check ligaments (p.397).
- Muscle movement and strength.
- Feeling (sensation) with light touch.
- If arm or leg problem, also check:
 - ☐ nearby tendon reflexes:
 - biceps, in front of elbow.
 - knee jerk.
 - ☐ nearby pulses: Check strength of each pulse, and compare one side of body to the other:
 - wrist.
 - top of foot (DP).
 - ☐ if pulse NOT felt on top of foot, check pulse behind medial ankle bone (PT).
 - ☐ if pulse NOT felt behind ankle bone, check pulse in groin (femoral).
 - ☐ if any pulse in foot is weak, check blood supply (arteries) as on p.398.

3. Assessment

3.1 Your assessment should be:
Musculoskeletal problem.

3.2 Make a more specific assessment:

- If pain in chest, upper back, shoulder, or arm, first consider

assessments in chart on p.20, "Chest Pain."

- If pain in leg, first consider assessments on p.36-37.
- Use Chart 3.2

3.3 Include in your assessment that the problem is one of the following:

- **Bone or joint infection** (Plan 4.1).
- **Arthritis without infection** (Plan 4.2).
- **Low back pain with muscle strain** (Plan 4.3).
- **Muscle strain** (Plan: p.240).
- **Tendonitis** (Plan 4.4).
- **Other or unknown musculoskeletal problem** (Plan 4.5).

4. Plan

4.1 Plan: Bone or Joint Infection

[1] Report to your referral doctor.
If you can NOT reach a doctor,

- Follow this plan until you can.
- Have someone arrange for transport to hospital as soon as possible.
 - ☐ patient needs I.V. antibiotics and other special care at hospital.
 - ☐ doctor will want to take a culture, if possible, before patient starts antibiotics.

[2] Special care while you are waiting to transport, and during transport, should include the following:

- Activity: Little or none. Patient should rest in bed.
- Splint, as needed, for comfort (p.249).
- If needed for pain or fever:
 - ☐ give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ if pain is severe, and you can NOT reach a doctor, give ASPIRIN or ACETAMINOPHEN with CODEINE (p.416).

[3] If transport is delayed, your referral doctor may suggest giving antibiotics the same as for treating meningitis (p.285) in the following cases:

- If high fever (103° or more) and transport is delayed more than 12 hours.
- If transport is delayed more than 24 hours.

4.2 Plan: Arthritis Without Infection

[1] Report to your referral doctor, unless he has already given you a plan for this patient's arthritis.

- **Always report if:**
 - ☐ this is first time patient has had the problem.
 - ☐ pain is in one joint.
 - ☐ pain is severe.
- While you are waiting to report, follow this plan.

[2] Patient education should include the following:

- Get patient education handouts from your referral hospital or other sources.
- Give information in chart 4.2.

Chart 4.2

Patient Education ARTHRITIS

1. Rest and elevate a joint if it is painful and warm.
2. Apply heat to the joint for 30-60 minutes, 4 times a day.
3. When your joint is feeling better (less painful and warm), begin to use it more.
 - Exercise, but avoid heavy use of the joint.

[3] Medicine should be given to relieve inflammation and pain:

- If adult, give ASPIRIN, 3 tablets every 4 hours.
- If child, contact doctor before giving medicine.

[4] Support the patient and reassure him. Arthritis is difficult to live with, both physically and mentally.

- Encourage patient to talk about problems/concerns. Follow general guidelines for counseling (p.219).

[5] Recheck in 2-3 days.

Chart 3.2

Musculoskeletal Problems: Some Assessments and Typical Findings

Assessment	History	Exam
BONE INFECTION [osteomyelitis] (Plan 4.1)	Adult complains of bone pain; child may NOT use an arm or leg. Fever, chills.	Fever. May be warm and swollen over the area. Bone tender to touch. Nearby joint movement may be abnormal.
JOINT INFECTION [septic arthritis] (Plan 4.1)	Often started fairly quickly. Adult complains of joint pain; child may NOT use an arm or leg. Fever, chills.	Fever. May be warm and swollen over the area. Joint tender to touch; joint movement abnormal, painful.
ARTHRITIS WITHOUT INFECTION [osteoarthritis; rheumatoid arthritis; other kinds of arthritis] (Plan 4.2)	Usually adult. Joint pain and stiffness: <ul style="list-style-type: none"> • Started slowly; recurrent. • Often more than one joint. • <i>If one joint</i>, may have history of old injury. • Stiffness may be worse in morning (with rheumatoid). 	Temperature: Normal. Joints involved: <ul style="list-style-type: none"> • May be enlarged from soft tissue swelling or bone enlargement. • Shape may be abnormal (deformed). • May be tender to touch. • Abnormal movement.
LOW BACK PAIN WITH MUSCLE STRAIN (Plan 4.3)	Low back pain: <ul style="list-style-type: none"> • Often started all of a sudden, when bending over, lifting, or straining. • Made better by resting; made worse by moving. <i>If disc or nerve problem, pain:</i> <ul style="list-style-type: none"> • May go (radiate) down one or both legs. • Made worse by coughing, sneezing, or straining/pushing down when having bowel movement. 	<i>Back.</i> Spasm of muscles beside spine: <ul style="list-style-type: none"> • Curve in low back may be flatter than normal. • Muscles tender to touch; feel firmer than normal. • Movement of back abnormal. <ul style="list-style-type: none"> — <i>if muscle spasm on one side</i>, painful side hurts more when bending away from that side. <i>If disc or nerve problem:</i> <ul style="list-style-type: none"> • Low back pain hurts worse with straight leg raising. • Leg may have decreased feeling or tendon reflexes.
MUSCLE STRAIN (Plan: p.240)	Muscle pain: <ul style="list-style-type: none"> • Often started all of a sudden, with hard exercise or injury. • Made better by resting; made worse by moving. 	Temperature: Normal. Muscle involved: <ul style="list-style-type: none"> • May have some swelling or bruising. • Tender to touch; feels firmer than normal (spasm). • Painful when stretched (when checking joint movement).
TENDONITIS [inflamed tendon] (Plan 4.4)	Tendon pain: <ul style="list-style-type: none"> • Often started slowly; may be recurrent. • Made better by resting; made worse by moving. 	Temperature: Normal. Tendon involved: <ul style="list-style-type: none"> • May have some swelling. • Tender to touch. • Painful when stretched (when checking joint movement).

4.3 Plan: Low Back Pain with Muscle Strain

[1] Report to your referral doctor

- Report NOW if patient also has fever or abdominal pain.
- While you are waiting to report, follow this plan.

[2] Patient education should include the following:

- Get patient education handouts through your referral hospital or other sources.
- Give information in chart 4.3.

Chart 4.3

Patient Education LOW BACK PAIN

1. Rest your back.
 - Rest on a firm mattress. Place it on the floor if needed.
 - It may help to place a pillow under your knees.
2. For the first day, it may help to apply cold packs (ice, placed in plastic bag and wrapped in a towel). Apply for 20 minutes. Repeat as needed.
3. After the first day, apply moist heat:
 - Soak a cloth in warm water.
 - Apply to skin. Cover with plastic wrap to keep in the heat.
 - Do this for 15 minutes, four times a day.
4. Have someone massage your back muscles.
5. Avoid sitting. It is better to lie or stand.
6. Avoid lifting!
7. Do not arch your back or bend backwards.
8. As you are getting better:
 - Your CHA/P can show you some back exercises to do (p.258).
 - Remember that when you reach to the floor or lift:
 - ☐ bend at your knees, NOT at your waist.
 - ☐ keep your back straight.
 - ☐ bring what is being lifted close to your body.
 - ☐ use leg muscles to get up.

[3] Medicine for pain may be given if needed:

- Give ASPIRIN OR ACETAMINOPHEN (p.416).
- Do NOT give a stronger pain medicine or a muscle relaxant such as DIAZEPAM (Valium®), unless the doctor prescribes it.
 - ☐ these medicines are habit forming, a problem especially if patient has recurrent backpain.

[4] Recheck as follows:

- Recheck patient every 2-3 days and report to your referral doctor.
- If patient is not getting better, the doctor may suggest *complete* bed rest.
- If patient is getting better, he may:
 - ☐ slowly return to normal activities, but avoid bending, twisting, or lifting heavy objects.
 - ☐ begin back exercises (p.258) when he has no pain when bending backwards.

4.4 Plan: Tendonitis

[1] Report to your referral doctor

- While you are waiting to report, follow this plan.

[2] Special care may include the following:

- Put arm or leg at rest. It may help to splint it; see Splinting (p.249).

[3] Patient education should include the following:

- For the first 1-2 days, apply cold packs (ice, placed in plastic bag and wrapped in a towel). Apply for 20 minutes. Repeat as needed.
- After 1-2 days, apply moist heat (a warm, wet towel). Apply for 20 minutes, about four times a day.
- If improved in 6 weeks, begin range of motion exercises as recommended by your referral doctor.
- Avoid activity that caused problem.

[4] Medicine should be given to relieve inflammation and pain:

- Give ASPIRIN (p.416).

[5] Recheck as follows:

- Recheck in 2-3 days.
- If getting better, check weekly.

4.5 Plan: Other or Unknown Musculoskeletal Problem

[1] Report to your referral doctor.

- Report NOW if patient has fever or looks sick.

If you can NOT reach a doctor, follow this plan until you can.

[2] Consider other assessments as follows:

- If low back pain that you think is NOT muscle strain:
 - ☐ if urinary complaints, do urine dipstick for leukocytes/white blood cells or nitrite, to check for infection (p.125).
 - ☐ if woman has discharge from the vagina or low abdominal pain, consider that she may have infection in fallopian tubes (PID). Go to p.133 and examine for V.D.
 - ☐ consider same things that might cause abdominal pain (p.63).
- If stiff neck, consider that the patient may have meningitis (p.282).
- If rash, hives, fever and enlarged lymph nodes along with musculoskeletal pains, consider that this is a reaction to medicine (serum sickness).
 - ☐ if possible, stop all medicines.
 - ☐ give ASPIRIN (p.416).
- If numbness, tingling, weakness or trouble moving an arm, leg or other part of the body, consider nervous system problems (p.279).
- If warm, red, painful swelling under skin, consider skin infection (p.318).

[3] Special care may include the following:

- Cold or warm packs may help to ease the pain.
- Splinting may ease the pain and protect the area (p.249).

[4] Medicine: ASPIRIN (p.416) may relieve pain or inflammation.

[5] Recheck in 1 day, sooner if getting worse.

SPLINTING

You should be taught how to splint by a qualified person.

Use a good emergency care reference book to review splinting in detail. This section is to be used as a short reminder of:

- The general approach to splinting.
- How to use different types of splints.

GENERAL APPROACH

Splinting helps to lessen pain and prevent further damage.

- If you are not sure if an injury is serious, splint.

Most guidelines here are for splinting an arm or leg. Use the following guidelines that apply to the area you are splinting.

General guidelines for splinting include the following:

- Splint fracture before moving patient, unless patient is in danger of further injury.
- If fracture, dislocation, or possible wound, cut away clothing and check the skin before splinting.
 - ☐ cover an open wound with a dry, sterile dressing.
 - ☐ do NOT push bone ends back under the skin. If they slip back under the skin, be sure to report this to your referral doctor.
- On an arm or leg, remove all rings, watches, jewelry.
- Decide exactly what is to be splinted.
 - ☐ if a fracture, include the joint above and below the fracture.
 - ☐ if a dislocation, you should splint above and below the dislocation.
- Decide which splint to use.
 - ☐ there are three main types of splints: rigid, soft, and traction. Examples of each are listed in this section.

- ☐ choose what you feel is needed to best splint the injury.
- ☐ if you are away from the clinic, use whatever you have.
- Pad splint in order to:
 - ☐ prevent too much pressure.
 - ☐ make splint more comfortable.
- As you splint, move the injured part as little as possible.
- After splinting:
 - ☐ check beyond the injury and write down:
 - pulse (strong, weak, or NOT felt—an emergency).
 - feeling, with light touch.
 - movement.
 - ☐ keep fingers or toes uncovered, so you can check them easily.
 - ☐ follow the plan for the injury (p.237).

If an arm or leg is severely deformed

in most cases you should apply traction to straighten it while you splint.

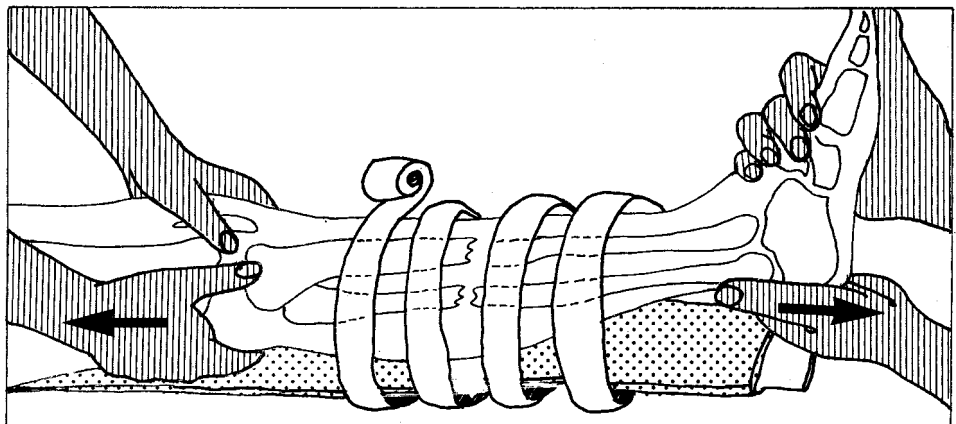
Do NOT apply traction to the following:

- If open fracture:
 - ☐ splint it as it is *until after you clean and rinse wound well* (p.344).
 - ☐ apply a dry, sterile dressing.
 - ☐ after you clean and rinse wound well, it is OK to splint with traction.

- If dislocated joint or if fracture near a joint:
 - ☐ splint it as it is. If you apply traction, you may injure nerves or blood vessels.
 - ☐ do NOT apply traction unless your referral doctor tells you to.

You should have two helpers. Apply traction as follows:

- With one hand, grasp the limb firmly, below the fracture.
- With the other hand, gently support the fracture.
 - ☐ if you can not support the fracture, have a helper support it.
- At the same time, one helper should grasp the limb above the fracture.
- Start with gentle traction, and slowly pull harder, if needed.
 - ☐ pull along the normal long line of the arm or leg.
 - ☐ once you start traction, do NOT stop until limb is splinted.
 - ☐ pull only enough to straighten limb so you can splint it well.
 - ☐ if patient complains of a lot *more* pain with traction, reduce the amount of traction until patient is comfortable, and then splint the limb.
- Have a helper apply the splint.
- After splinting, slowly stop the traction.

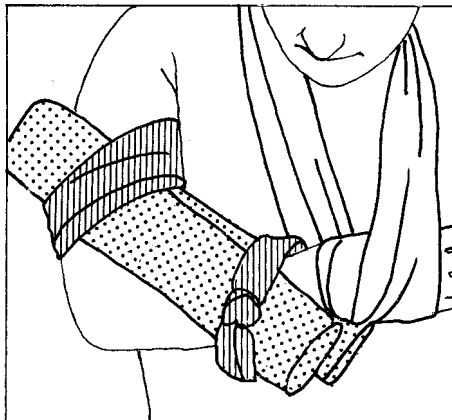


Do NOT stop traction until limb is splinted.

RIGID SPLINTS

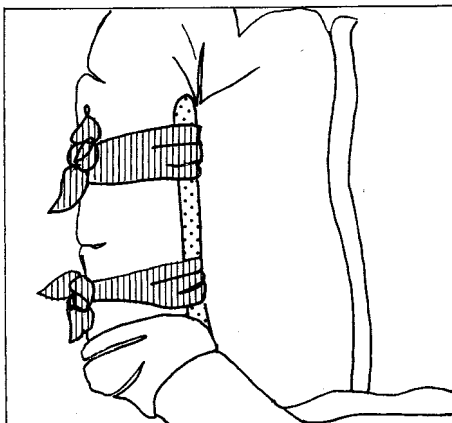
Rigid splints are splints made from firm (rigid) materials. There are many examples:

- Patient's own body can be used as a splint, in an emergency. Examples:
 - ☐ an injured leg or finger can be splinted to an uninjured one (with padding placed between them).
 - ☐ an injured arm can be splinted to the chest (with elbow bent) or to side of body (with elbow straight).
- Ordinary materials can be used, such as boards, sticks, pencils, or magazines.
- You may have ready made splints of wire, metal, or plastic.
- You can make a plaster splint.
 - ☐ directions for plaster splints are listed in this section.

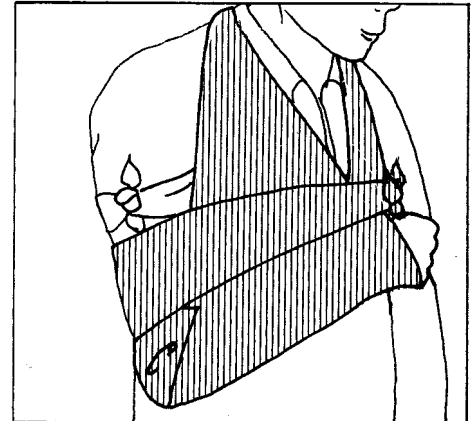


Splint an elbow or knee in same position as it is found.

- For an upper arm:
 - ☐ use a short, padded board splint.



- ☐ next, place arm in sling, and bind sling to body.

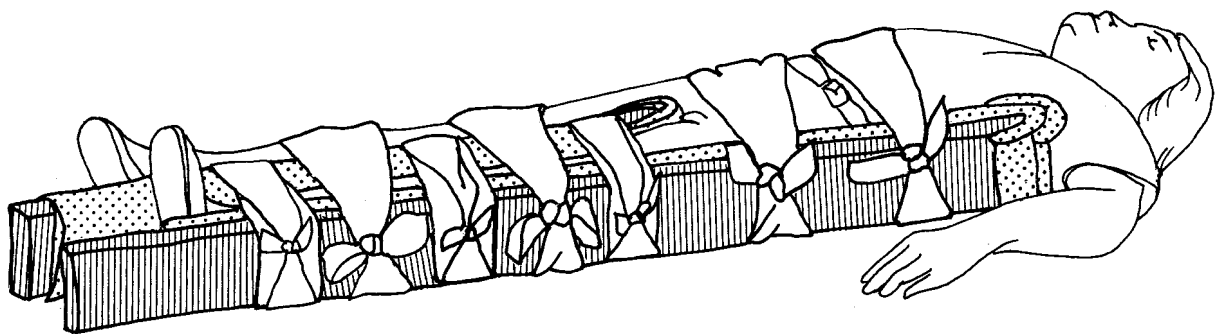


Rigid Splints Using Ordinary Materials

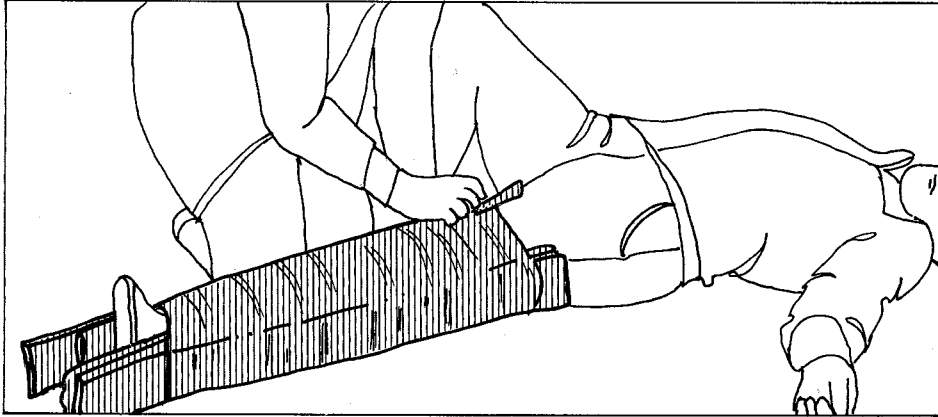
You can make rigid splints from ordinary materials, as in the following examples:

- For an elbow or knee:
 - ☐ splint in same position as it is found.
 - ☐ use two padded board splints.

- For hip or thigh bone (femur):
 - ☐ on the outside of leg (lateral side), use a long, well-padded board splint from armpit to foot.
 - ☐ on the inside of leg (medial side):
 - use a padded board splint, as in next drawing.
 - or, splint leg to uninjured leg (with padding placed between legs).
- For hip in an older person, you can:
 - ☐ place patient on a long spine board.
 - ☐ use soft splints, such as pillows or rolled blankets, to support leg.
 - ☐ strap well to the board.



- For a lower leg, use a well-padded board splint on both sides of leg.



Plaster Splints

For many injuries, plaster splints are the best and most comfortable splints to use, especially if patient will stay in the village for a while.

- Sugar tong splints work well for forearm, foot, or ankle injuries.
- Posterior splints work well for foot or ankle injuries, but may not give enough support on sides of limb.
- A posterior AND a sugar tong splint can be used together (called a three-way splint), if one splint alone does not seem to give enough support.
 - ☐ remove elastic bandage from first splint.
 - ☐ leave first splint in place while you add second splint.
- For lower leg (tibia) fractures, after you splint below the knee, you can add on another plaster splint, so the whole splint reaches to top of thigh.

Patient should sit or lie down (use your judgment). Do the following:

- [1]** Use the good (uninjured) limb to measure correct length of splint.
 - Roll out padding (Webril®) along the whole area where splint will be.
 - ☐ for forearm or lower leg, the correct area where splint should be is shown in drawings in this section.
 - Roll out an extra inch or two.
 - Tear off this length of padding, and lay it out flat on a table.
- [2]** Get the splint ready:
 - Add more padding, so that there are four layers of padding.
 - Roll out plaster bandage on top of padding:
 - ☐ roll plaster so it is a small distance back from end of padding.
 - ☐ use 12 layers of plaster bandage.

[3] Have a helper keep patient's injured limb in correct position.

- For forearm:
 - ☐ hold arm off of table.
 - ☐ elbow should be at 90° angle (square).
 - ☐ hand should be in "position of function," as patient would hold a pen.
- For lower leg:
 - ☐ patient should hang leg over edge of table, far enough from edge so you can easily reach behind knee for splinting.
 - ☐ foot should be at 90° angle (square), but do NOT force.

[4] Add two extra layers of padding to certain areas on limb:

- The following areas need extra padding:
 - ☐ inner elbow (nerve is nearby).
 - ☐ outer part of knee (nerve is nearby).
 - ☐ ankle (it may swell a lot).
- Use pieces of extra padding.
 - ☐ do NOT wrap padding all the way around limb.
 - ☐ helper can hold the extra pieces in place while you are splinting.

[5] Wet the plaster.

- Grasp both ends of the plaster and lift it off of the padding.
- Dip plaster into water until it is completely wet.
- Let the water drain off.
- Run your fingers down the length of the plaster, to gently squeeze out some extra water.

Applying a Plaster Splint

PLASTER SPLINT

Equipment/supplies needed:

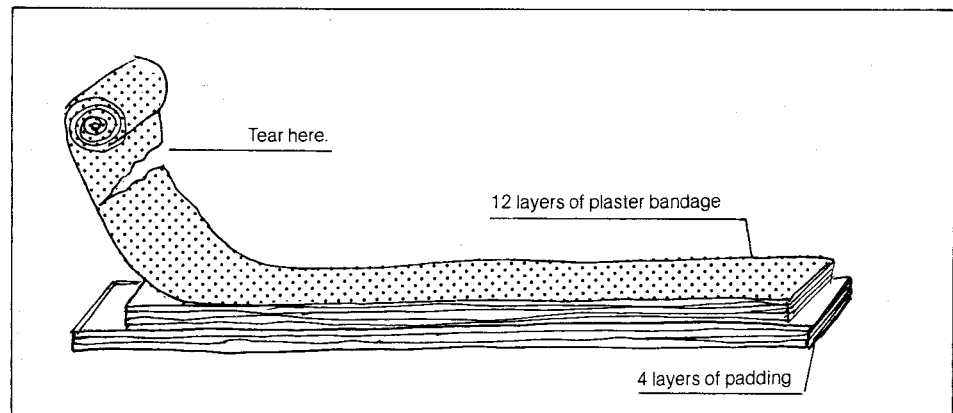
Rolls of padding (Webril® orthopedic bandage), same size as plaster bandage you use.

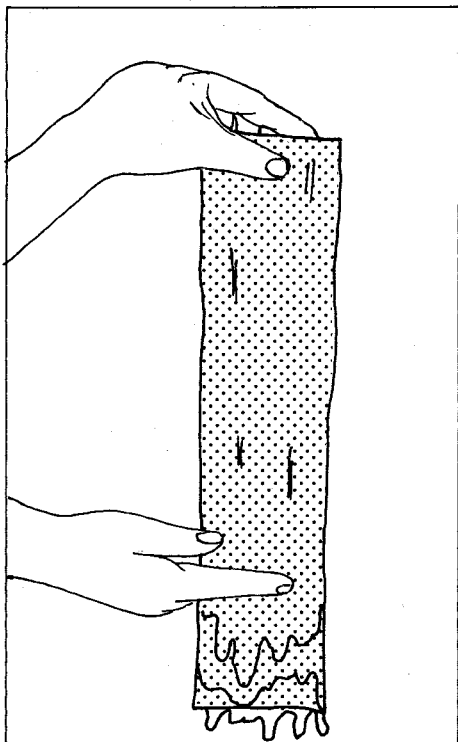
Rolls of plaster bandage. Sizes:

- For arm, 3-4 inches.
- For leg, 5-6 inches.

Basin of water at room temperature (NOT warm water)

Elastic bandages (Ace® bandages)





Gently squeeze out some extra water.

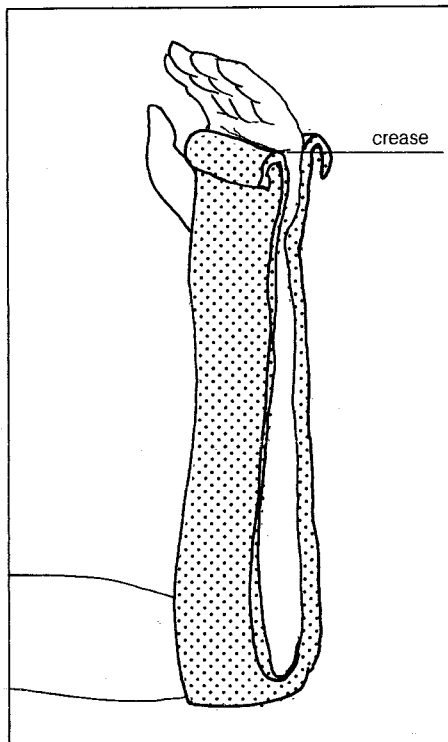
[6] Get the plaster ready quickly:

- Lay plaster back on table, on top of padding.
- Quickly but firmly, rub along the length of plaster.
 - ☐ do this until plaster is smooth and joins together as one splint.
 - ☐ add more water to your fingers, if needed.
- Place one additional layer of padding on top of the plaster, to prevent elastic bandage from sticking to splint.
 - ☐ for lower leg (tibia) fracture, do NOT place this padding at top area of splint where you will add on another plaster splint.

[7] Apply the splint quickly.

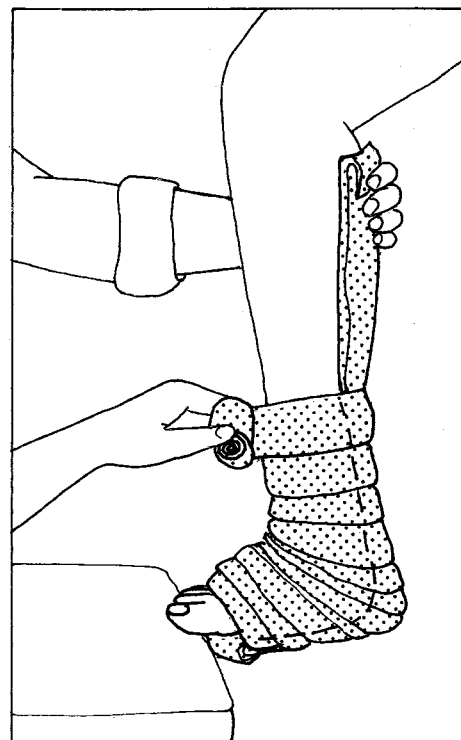
- Helper should hold the upper part of splint in place.
- Gently mold the splint into place, so padding rests against the skin.
- Fold back edges if needed:
 - ☐ splint should NOT go all the way around a limb. If it does, fold back edges to allow a "channel of skin" to show, to allow swelling.

- ☐ on back of hand, splint should end just before knuckles.
- ☐ on palm of hand, splint should end at crease of hand, far enough back so that fingers can bend almost to a 90° angle to hand.
- ☐ on foot, splint should end at base of toes.
- ☐ at knee, splint should end just below knee, so that knee can bend almost to a 90° angle.



Sugar tong splint being applied.

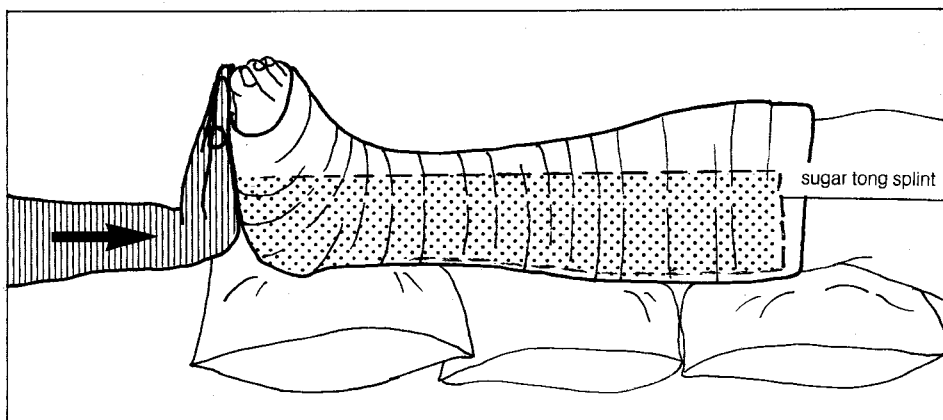
- Quickly wrap splint with elastic bandage (Ace®), while you continue to mold the splint, if needed.
 - ☐ for forearm sugar tong splint, begin to wrap at elbow and work toward fingers.
 - ☐ for lower leg splint, begin to wrap at toe area and work toward knee.



Wrapping posterior splint

[8] Hold the limb in the correct position for 10-15 minutes, until plaster is hard.

[9] Loosen the elastic bandage, if needed, to allow for swelling.



Hold limb until plaster is hard.

SOFT SPLINTS

Air Splints

Air splints are double walled plastic tubes. They are used as temporary splints.

- Do NOT plan to use one for a patient who needs the splint on for more than 2-3 hours.
- It is OK to use one when you can transport quickly.

If you use an air splint, do the following:

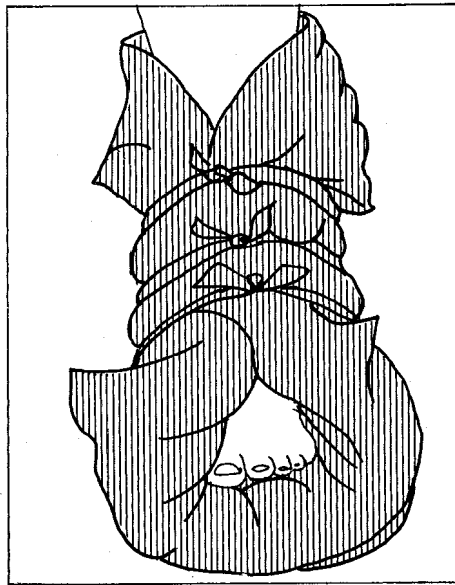
- Choose the correct size and style of splint for the injured limb.
- Include the hand or foot in the splint.
- Inflate the splint by mouth, never with a pump.
- After splinting, check pressure in splint:
 - ☐ you should just be able to pinch together walls near edge of splint.
 - ☐ thumb should be able to easily make a dent in splint.
- Recheck pressure in splint often.
- Warnings:
 - ☐ do NOT over inflate air splint, or it will cut off circulation.
 - ☐ protect splint from cold. It becomes brittle around -20°F .
- Teach patient or escort how to check pressure and how to add or release air if needed.
 - ☐ splint may get tighter when
 - it gets warm.
 - an airplane is climbing.
 - ☐ splint may get looser when
 - it gets cool.
 - an airplane is losing altitude.

Other Soft Splints

You can make soft splints from ordinary materials, as in the following examples:

- For a neck, if you do NOT have a cervical collar, use a blanket, towel, or clothing for a splint.

- For a foot, use a pillow.



For Collarbone

For a fractured collarbone (clavicle), use a figure of 8 bandage:

- A ready made bandage, if available.
- Or, padded towels or folded triangle bandages.

Do the following:

- Patient should sit.
- Reassure patient. Help him to relax and slowly try to pull back his shoulder blades.
- Place your knee lightly into center of patient's back, to pull back shoulders as you tighten the bandage.
- Tighten the bandage snugly, as needed to keep shoulders back.

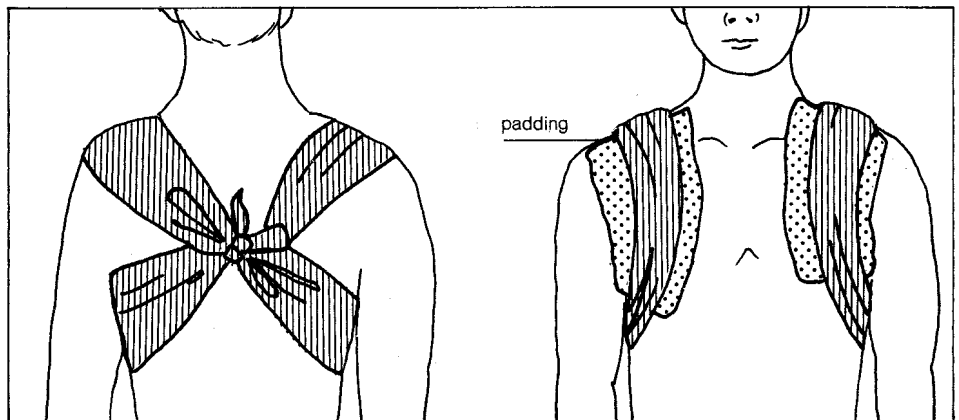


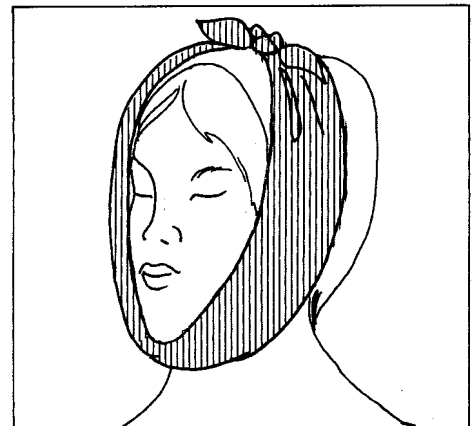
Figure of 8 bandage.

Patient education should include the following:

- Rewrap as needed, to protect skin.
- To relieve muscle spasm or tingling arms from tight bandage, it should help patient to:
 - ☐ lie down on back.
 - ☐ if needed, place a folded towel in center of back, between shoulder blades.
 - ☐ return to clinic if not getting better.
- The figure of 8 bandage should stay in place for about:
 - ☐ eight weeks, if adult.
 - ☐ four weeks, if child less than age ten.
- Do not remove bandage until all movement and tenderness is gone when pressing over the broken spot.

For Jaw

Tie bandage with a bow, in case patient needs to untie it quickly (if vomiting or choking).



TRACTION SPLINTS

Traction splints are special splints used for certain leg fractures:

- For a fractured thigh bone (femur).
- For a serious fracture of lower leg.

Traction splints work by pulling along the normal long line of the leg and preventing the fracture from moving very much. Less movement means less pain and internal bleeding.

Traction splints must be applied by two people who know what they are doing.

- Do NOT apply a traction splint until you have been taught.
- Traction should NOT be too tight, just tight enough to make the patient more comfortable.

Ready made traction splints include the Hare traction splint and Thomas half-ring splint.

If needed, you can make a traction splint for a broken thigh bone, using a crutch and other materials, as follows.

Traction Splint Using a Crutch

TRACTION SPLINT USING A CRUTCH

Equipment/supplies needed:

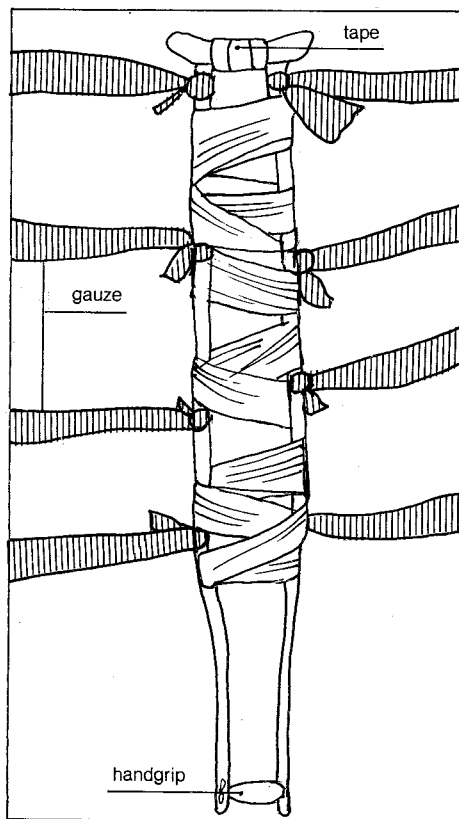
Crutch
Rolls of gauze
Tincture of benzoin
Wide adhesive tape
4x4's (gauze sponges)
Elastic bandage (Ace® bandage)
Tongue blades

[1] Choose a long crutch. Measure on the uninjured leg.

- Top of crutch will go under the middle of patient's buttock, just under the bone patient sits on (ischial tuberosity).
- Bottom of crutch *without center piece* should extend at least 12 inches beyond the foot.

[2] Get the crutch ready, as in the next drawing:

- Tape the armpit pad in place.
- Remove the center piece at bottom of crutch.
- Remove the handgrip and place it in the lowest hole at bottom of crutch.
- Tie a long piece of gauze at the same level on each side of the crutch. Repeat this at several levels.
 - after splinting, you will tie these pieces together, to hold the leg to the splint.
- Use rolls of gauze to make an area that will support the leg.
 - roll the gauze back and forth, over and under the sides of crutch, where patient's leg will be.

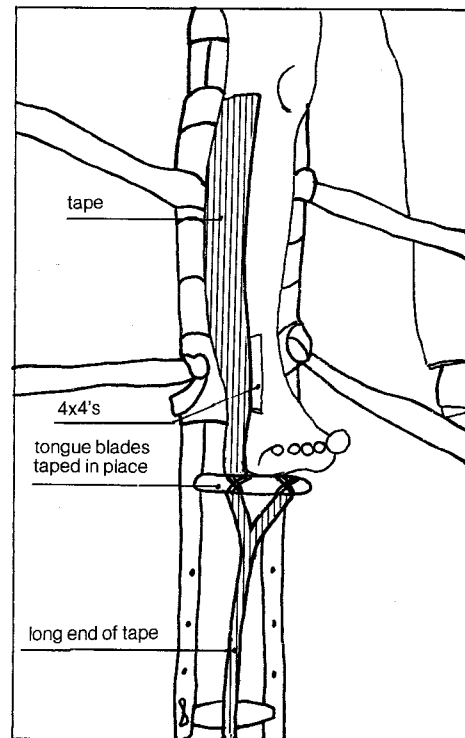


[3] Gently apply traction (p.249) and support leg, while helper slides crutch under patient.

[4] Get patient's leg ready, as in the next drawing:

- If leg is very hairy, you may need to shave the area where you will apply tape.

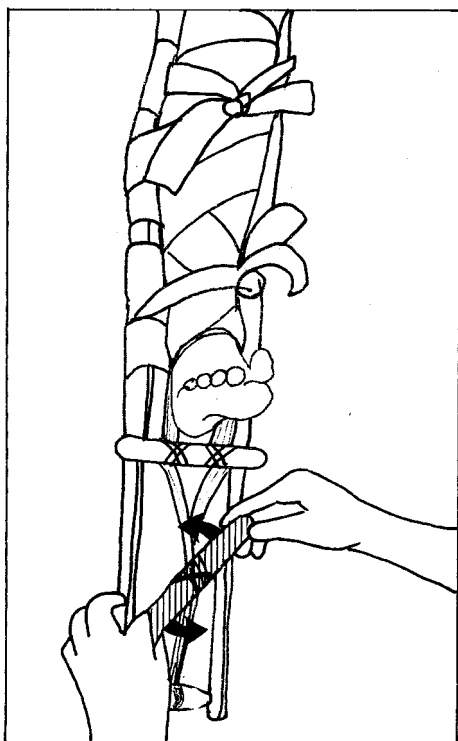
- Use tincture of benzoin on skin, on both sides of lower leg, so tape will stick better.
- Place a long piece of *wide* adhesive tape down each side of lower leg and past end of crutch:
 - apply tape to skin from just below knee area to ankle bone.
 - place two 4x4's (one package) over each ankle bone, so tape does NOT stick to skin in ankle area.
 - continue the tape on both sides, about 12 inches past end of crutch.
- Just below the foot, cut a hole in both pieces of tape. Hole should be large enough so tongue blades will fit through.
- Slide three tongue blades through the holes, and tape them in place so that tape is as far apart as width of foot.
- Stick the two pieces of tape together below the tongue blades.



[5] Apply the splint:

- Apply traction to ankle (p.249), just enough to keep patient comfortable.
 - once you start traction, do NOT stop until traction splint is applied.

- Have helper gently wrap an elastic bandage around lower leg, to help support taped area.
 - Next, have helper firmly attach the long end of tape to hand grip at bottom of crutch, as shown in next drawing.
 - ☐ helper should pull on the long piece of tape snugly as he tapes it in place.
 - Slowly stop your traction.
 - Increase the traction, as needed:
 - ☐ cut a hole in the long piece of tape. Hole should be large enough so tongue blades will fit through.
 - ☐ slide three tongue blades through the hole, and tape them in place.
 - ☐ twist the tongue blades as needed to increase traction, and tape tongue blades to sides of crutch.
- [6]** Hold the leg to the splint by tying together the pieces of gauze which you tied on sides of crutch.



Twist tongue blades to increase traction.

MUSCULO-SKELETAL SYSTEM: OTHER SKILLS

CRUTCH FITTING/WALKING

Crutch Fitting

It is important to fit crutches properly. Crutches that are too high under the armpit may damage the nerves because of too much pressure.

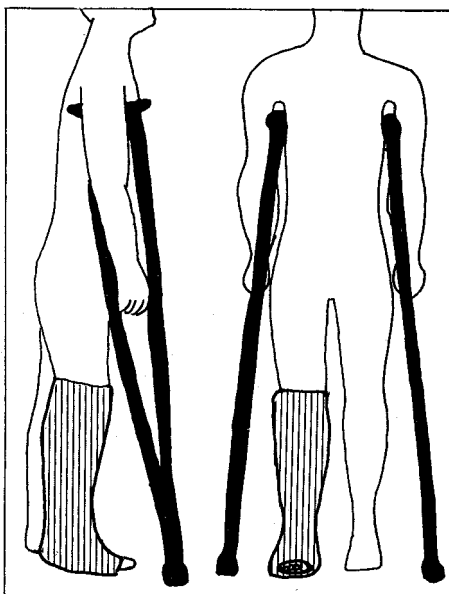
Follow these guidelines to properly fit crutches:

[1] Adjust for crutch height:

- Have patient stand with arms at side and elbows slightly bent.
- Measure two fingers between armpit and top of crutch.
- Remove screws at bottom of crutch, and adjust the height. Replace screws tightly.

[2] Adjust hand grips:

- With crutches in place, have patient stand straight and hang arms at sides.
- Place hand grips at wrist creases.



Properly fitted crutches.

[3] Check for these safety items:

- Rubber tips to prevent slipping.
- Rubber pads at top.
- Padded hand grips if patient wants them.

Crutch Use

Give patient education for crutch walking in chart A.

Chart A

Patient Education USING CRUTCHES

1. Support your weight properly:

- Support weight on hands, not on underarms.
- Tingling or numbness in your upper body may mean:
 - ☐ you are not supporting your weight properly, or
 - ☐ crutches do not fit well.

2. Walking with crutches:

- Wear well fitting flat shoes.
- Look ahead when walking, not at your feet.
- Place crutches about 12 inches in front of the good foot and about 4-6 inches to the side.
- Balance on the good leg and support weight on your hands.
- Push down on hand grips and swing both legs so your heel goes about 12 inches past the crutches.
 - ☐ if you have problems balancing, stop your foot when it reaches the crutches, instead of swinging your legs past them.
- As your good foot touches the floor, bring both crutches forward to the starting position.

3. Going up and down stairs:

- Go up stairs with your good leg first. Follow with the crutches.
- Go down stairs with the crutches first. Follow with your good leg.

A patient who returns from the hospital may have been taught to use crutches differently than in chart A, depending on his problem.

- He may be able to touch his bad foot lightly to floor for balance, but not put any weight on it.
- He may be able to place as much weight on his bad foot as feels comfortable.

If patient uses only one crutch, he should use it on the side of the good leg.

CAST CARE: PATIENT EDUCATION

This section applies to both plaster and synthetic casts.

Care Until Cast Is Hard And Dry

- If swelling occurs, elevate arm or leg above level of the heart.
- Keep cast uncovered. It will dry and harden more quickly.
- Do not rest cast on hard surfaces or sharp areas; do not bump it against things.
 - ☐ the cast will dent and cause pressure sores under the dent.
 - ☐ use crutches, sling or pillows for support.
- At first, cast will be warm. It will cool as it hardens.
- If doctor says it is OK to bear weight, wait for two days after a plaster cast is applied until it is completely hardened.

Long Term Care

- Keep clean:
 - ☐ once dirty, it can not be cleaned.
 - ☐ dirt adds to cast breakdown.
- Keep dry:
 - ☐ a plaster cast may break down if wet.
 - ☐ a synthetic cast is not damaged by water, BUT if the inner lining of cast gets wet, the skin breaks down. Blow dry it with cool air from a hair dryer or vacuum cleaner.

- ☐ to keep out moisture when bathing, cover cast with waterproof material (plastic bag), and tape it or use rubber bands.
- ☐ avoid walking on wet surfaces with the cast.
- Protect skin:
 - ☐ do not pull at, pick at, or reach under the lining. The padding is needed for a good fit and skin protection. If you wad up the lining, it can cause pressure sores. If you remove the lining, cast will not fit properly.
 - ☐ itching is normal. For relief:
 - blow cool air into cast with hair dryer or vacuum cleaner.
 - or, take aspirin or acetaminophen (Tylenol®).
 - ☐ chapped or irritated skin at the cast edges can be relieved:
 - apply lotion to skin.
 - apply cotton padding to the inside edge of cast.
 - ☐ cover exposed toes and fingers with a sock, mitten, cast boot, or stockinette.

Contact your CHA/P if:

- Cast is cracking. It may need to be repaired or replaced.
- Cast is too loose.
- Swelling is not made better by raising arm or leg higher than level of the heart.

Remove cast:

- Only as ordered by doctor.
- Plaster casts may be soaked off.
 - ☐ add two tablespoons of vinegar to each gallon of warm water.
 - ☐ soak cast for at least half an hour.
 - ☐ water used to soak a cast should NOT be poured down a sink or toilet (plaster may block the pipe).
- Synthetic casts may be removed using a saw sent home with patient.
- After removing a cast:
 - ☐ wash skin gently with soap and water.
 - ☐ dry skin well.
 - ☐ apply skin cream or lotion.
 - ☐ slowly begin to exercise your muscles.

Serious Problems

The CHA/P will need to report serious problems immediately to the doctor.

When checking for problems, always compare one side of your body to the other. Contact your CHA/P immediately if:

- The area beyond your cast has any of the following danger signs:
 - ☐ white or blue color.
 - ☐ cold to touch.
 - ☐ pulse decreased or absent.
 - ☐ no movement.
 - ☐ numbness or tingling.
- Pain develops that is:
 - ☐ severe over bony parts. Report immediately, because pain will lessen as skin breaks down.
 - ☐ not relieved by raising an arm or leg higher than level of heart.

EXERCISES

Exercises are an important part of the plan for certain musculoskeletal problems. By doing exercises, the patient can:

- Return to normal more quickly, including normal joint movement (normal range of motion).
- Strengthen muscles which help to protect the area from further injury.

In this section some good exercises are listed for three common problem areas: shoulder, knee, and back. The doctor may prescribe other special exercises for a certain patient.

General Approach

For most exercises, patient should do the exercise, relax slowly back to the starting position, and repeat for 10-15 minutes, two times a day.

Patient should start with the easiest exercises and add the harder ones when he can.

- Exercises in this section are listed according to how hard they are to do.
 - the easy ones are first, the harder ones are last.

In the following drawings, shoulder and knee exercises are shown for the right side of the body.

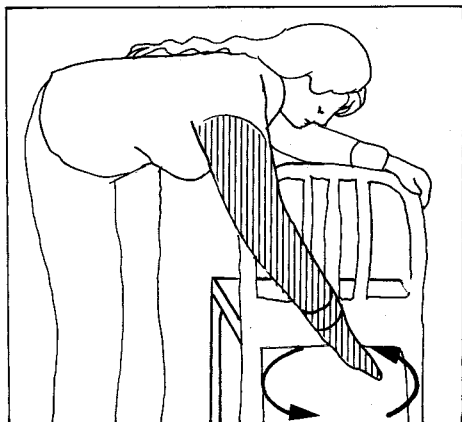
Exercises for Shoulder

Done to prevent loss of function from bursitis or from tendonitis.

NOT done after shoulder surgery, until ordered by the doctor.

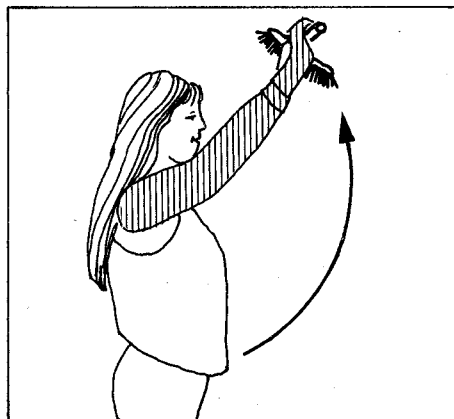
[1] Use arm like a pendulum:

- Bend forward with arm hanging down.
 - lean on good arm for support.
- Swing arm in circles. Make the circles as large as possible.

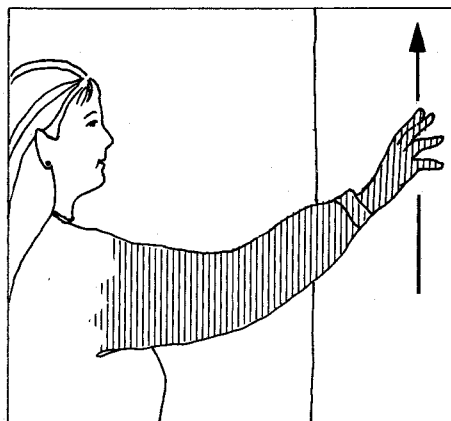


[2] Lift arm as high as it will go (flexion). Do one of the following:

- Use a stick (broom handle):
 - hold stick with both hands.
 - lift stick above head.
 - start by doing this when lying down. When possible, do it sitting or standing.

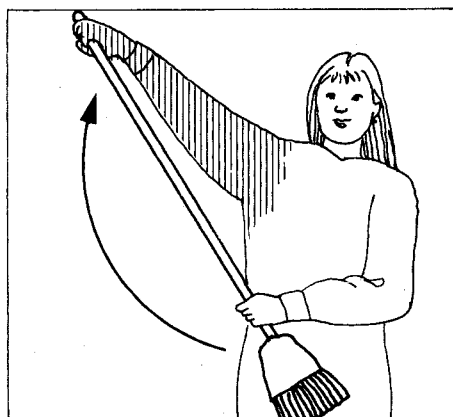


- Or (without a stick):
 - turn body toward a wall.
 - "walk" fingers up wall as high as they will go.

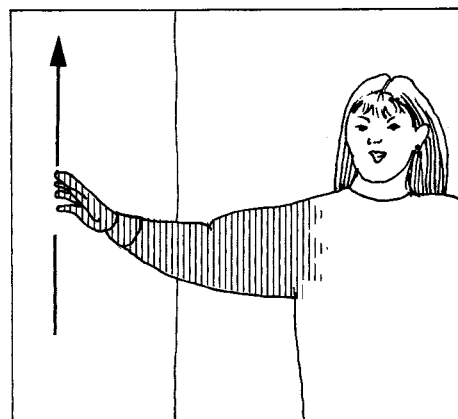


[3] Move arm to the side as far up as it will go (abduction). Do one of the following:

- Use a stick (broom handle):
 - hold stick with both hands.
 - move arm to the side, pushing with good arm.

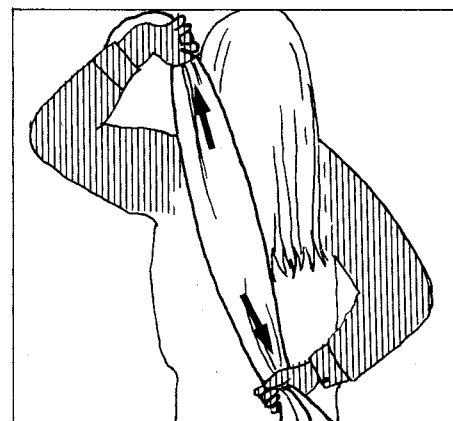


- Or (without a stick):
 - turn arm toward wall.
 - "walk" fingers up wall as high as they will go.



[4] Move the arm behind you:

- Hold towel between hands, and pretend you are drying your back.
 - pull up with one arm.
 - next, pull down with the other arm.
 - repeat.
- Next, switch positions of arms (top and bottom), and repeat the exercise:
 - pull up with one arm.
 - next, pull down with the other arm.



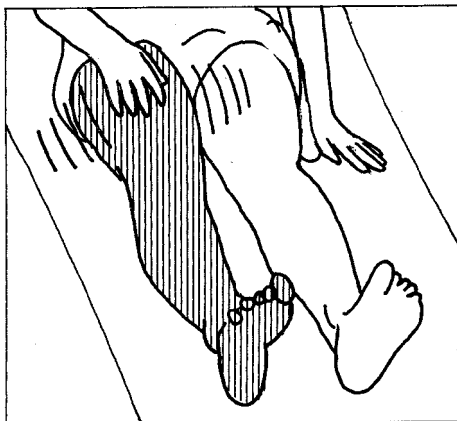
Exercises for Knee and Thigh

For muscles at front of thigh

(quads), do as many of the following as possible:

[1] Tighten thigh muscles without bending knee (isometric exercise):

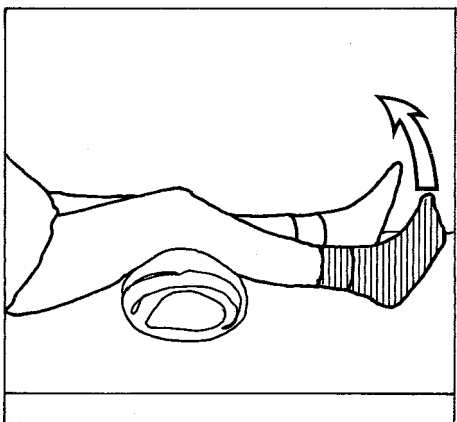
- Keep leg straight.
- Tighten muscles on front of thigh.
 - ☐ place hand on thigh to feel the muscles tighten.
- Hold and count slowly to 3.



Tighten thigh muscles.

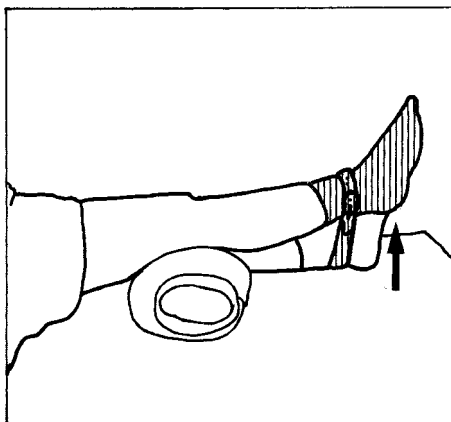
[2] Tighten thigh muscles and bend knee a little bit:

- Sit on flat surface, with legs out straight.
- Elevate knee about six inches (use firm pillow or large towel).
- Raise foot to straighten the leg.
- Hold and count slowly to 5.



- When muscles are getting stronger, add the following to this exercise:
 - ☐ loosely fasten belt around ankles.
 - ☐ leave good leg in place.

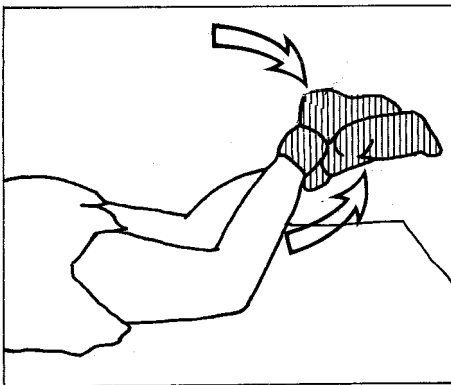
- ☐ raise foot to straighten the leg you are exercising, until belt is pulling down on the ankle.
- ☐ hold and count slowly to 5.



For muscles at back of thigh

(hamstrings), do the following:

- Lie on abdomen.
- Cross ankles so ankle of good leg is on top.
- Push down with good foot.
- Push up with other foot, trying to bend the knee.
 - ☐ push as hard as you can without moving the feet or bending the knee very much.
- Hold and count slowly to 5.



Exercises for Back

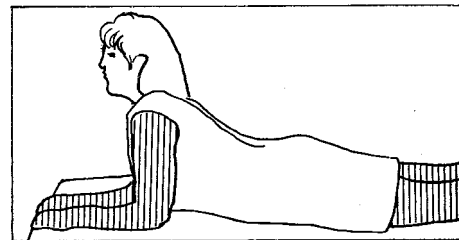
These exercises should NOT cause pain.

- If patient is recovering from a back problem, he should start the exercises when he has no pain when bending backwards.

[1] Bend backwards (back extension):

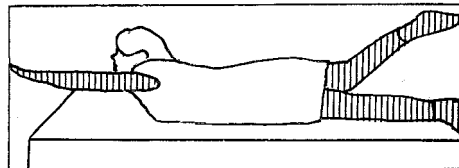
- Lie on abdomen.

- Do a low push-up, onto elbows.
- Hold and count slowly to 10.
 - ☐ hold longer if you get good relief.



[2] Advanced back extension:

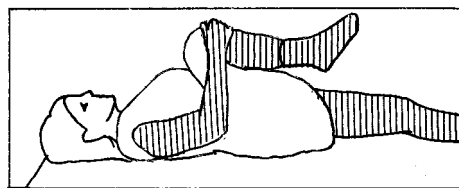
- Lie on abdomen as in next drawing.
- At the same time, lift:
 - ☐ head.
 - ☐ one arm.
 - ☐ leg on other side of body.
- Hold and count slowly to 5.



- Repeat, lifting other arm and leg.
- When possible, lift both arms, legs, and head at the same time.

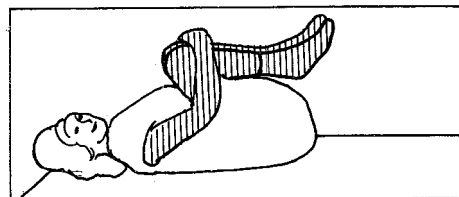
[3] Pull one knee to chest.

- Lie flat on back with one knee bent.
- With both arms pull one knee up to chest.
- Hold and count slowly to 3.
- Repeat with other knee.



[4] Pull both knees to chest:

- Lie flat on back with both knees bent.
- Pull both knees to chest, *keeping back flat*.
- Hold knees tight to chest for 20 seconds.



NERVOUS SYSTEM PROBLEMS

HEAD INJURY

General Approach

Treat the patient with a head injury as if he has a neck/spine injury:

- Especially in these situations:
 - ☐ unconscious patient.
 - ☐ driving accident.
 - ☐ diving accident.
 - ☐ fall.
 - ☐ airplane accident.
- Keep patient's neck and back straight during your whole exam.
- As soon as possible, and before moving, splint neck and back to prevent movement.

Plan to recheck level of consciousness often. Write down and report changes, getting worse.

1. Emergency Care Soon After Injury

1.1 Check airway and breathing. If needed, open airway:

- If patient is NOT breathing and is not lying flat on his back, roll him over carefully, keeping his neck and back straight (shown on p.9).
- Push jaw forward (jaw-thrust) *without* moving the neck (shown on p.4).
- If jaw thrust is not working, it may help to suction patient's mouth with bulb syringe or wipe out his mouth.

1.2 Keep airway open.

- If patient vomits at any time, do the following:
 - ☐ turn him on his side. You should have 3 helpers to do this correctly before neck is splinted, without moving head, neck, or back.
 - ☐ sweep out his mouth.

1.3 Check circulation.

1.4 Control severe bleeding.

- Use direct pressure.
 - ☐ the sterile cloth should be tight enough to control bleeding, but not so tight that it could push pieces of broken bone into the brain.

- Do NOT try to stop drainage from the ear or nose. Instead, apply a loose, sterile dressing to help prevent infection.

1.5 *If possible spine injury*, splint neck and back to prevent movement (p.243).

1.6 Check vital signs: P, R, BP.

- If shock (weak, fast pulse; low BP):
 - ☐ treat as on p.7.
 - ☐ a head injury alone does not cause shock. As soon as possible, check for other injuries/bleeding.
- If serious injury, plan to have helper recheck vital signs at least every 15-30 minutes, until they have been normal for two hours.

1.7 Position, if NOT in shock: Keep patient lying down, with head elevated about 12 inches higher than feet.

1.8 Give OXYGEN if needed (very short of breath; blue color of lips, nails).

- Follow guidelines on p.435.

2. History

If you get history from patient, check to see if information is correct. Ask someone who knows.

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Find out about the accident that caused the injury:

- Exactly what happened?
 - ☐ what caused the injury?
 - ☐ was it related to alcohol or other drugs?
 - Did patient get knocked out (lose consciousness)?
 - ☐ if so, how long did it take him to wake up?
 - Does patient have other injuries?
- [2]** How has the patient's mind (thinking) been?

- Has he been acting differently?

[3] Does patient have any other complaints, such as:

- Pain?
- Symptoms of shock: feeling weak, tired?

- Feeling faint?
 - Change in vision?
 - Nausea or vomiting?
 - Unable to feel or move his arms or legs?
 - Arms or legs feel numb or tingling?
- [4]** When did patient eat last?

2.2 Past Health History

[1] Illnesses?

[2] What medicines is patient taking now?

[3] Allergies?

[4] When was last TETANUS shot?

3. Exam

Be complete. The brain may be damaged by an accident that caused only a minor skin injury.

3.1 Repeat vital signs: P, R, BP.

3.2 Do a body survey (p.9).

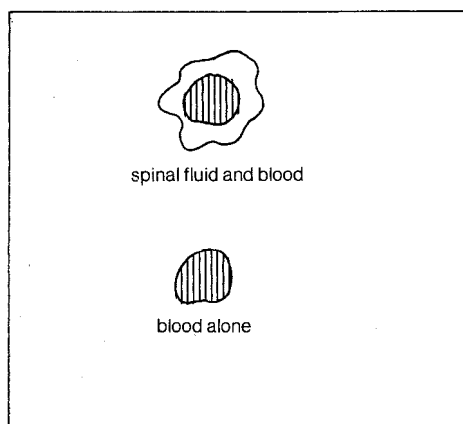
Especially check:

- Head and neck:
 - ☐ appearance. Note all injuries (may show where there is damage).
 - ☐ try to gently feel every bone of the spine for tenderness.

3.3 Nervous system. Check certain parts of the nervous system that you did not check with body survey:

- Mental status (mind):
 - ☐ orientation. Ask patient:
 - "What is your name?"
 - "Where are you now?"
 - "What is the date?"
 - ☐ memory. Can patient remember:
 - the accident?
 - what was happening just before and just after the accident?
- Nerves of the head:
 - ☐ face muscles: raise eyebrows; show teeth.
 - ☐ feeling on face, with light touch.
 - ☐ mouth and throat:
 - sticking tongue out.
 - uvula hanging, saying "Ah."
 - gag.
- Reflexes:
 - ☐ tendon reflexes:
 - biceps, in front of elbow.
 - knee jerk.
 - ankle (heel).

- ☐ bottom of foot (Babinski, p.409):
Do all toes move down (normal) when you run something hard along bottom of foot, from heel toward toes?
 - Coordination of movements: finger to nose test.
- 3.4 Lab test:**
- If bloody drainage from the ear or nose, check to see if there is spinal fluid mixed with the blood:
 - ☐ place a drop on a piece of filter paper or paper towel.
 - ☐ if a clear circle appears around the blood, it is spinal fluid. If not, it is just blood.



- Hemoglobin, if patient lost a lot of blood.
 - ☐ hemoglobin level may be normal at first. It is important to check it NOW, to compare with level after some time has passed.

4. Assessment

4.1 Your assessment should be **Head injury.**

4.2 Make a more specific assessment. Use chart 4.2.

4.3 Include in your assessment that the problem is either:

- **Serious head injury** (Plan 5.1), or
- **Minor head injury** (Plan 5.2).

Chart 4.2

HEAD INJURY: ASSESSMENTS AND TYPICAL FINDINGS

SERIOUS HEAD INJURY

If accident patient has or develops *any of the things listed below*, this is a serious head injury.

History:

- Alert at first, later getting sleepy, confused, or even unconscious.
- Not able to wake up completely within a few minutes after the accident.
- Change in vision, such as blurry or double vision.
- Headaches, getting worse.
- Seizure (convulsion).
- Vomiting more than twice.

Exam:

- May be unconscious.
- Danger sign of high pressure inside skull: pulse gets slower and BP gets higher.
- Irregular breathing.
- Broken skull (fracture).
- Bruises under the eyes or behind the ear.
- Eye: Pupils NOT the same size; may react to light slowly or not at all.
- Blood or spinal fluid draining from ear or nose.
- Confused about who he is, where he is, what day it is, or recent memory.
- Coordination or balance problems.
- Other abnormal finding on nervous system exam.

MINOR HEAD INJURY

Accident patient does NOT have any findings of a serious head injury.

5. Plan

5.1 Serious Head Injury

[1] Report NOW to your referral doctor. Give other emergency care while someone else contacts the doctor.

If you can NOT reach a doctor, have someone arrange for transport to hospital as soon as possible.

[2] Other emergency care should include:

- Splint broken bones (p.249).
- Care for wounds as on p.339.
 - ☐ if severe wound with possible broken skull, consult your doctor before you clean or irrigate.

[3] Transport patient to hospital. While you are waiting to transport, your plan should include the following:

- Reassure patient.
- Observe airway and breathing.
 - ☐ keep a suction bulb near, to suction mouth and throat if needed.
 - ☐ begin rescue breathing, if needed.
- Diet: Nothing by mouth.
- Recheck vital signs (P, R, BP) at least every 15-30 minutes.
- Do NOT give pain medicine.
- If patient is unconscious, keep eyes closed to prevent injury from drying.

5.2 Minor Head Injury

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Special care should include the following:

- Care for wounds as on p.339.
- If needed for pain, give ACETAMINOPHEN (Tylenol®, p.416).
- Have someone stay with patient and check patient (wake him up) every 1-3 hours for one day. Teach that person the following:
 - ☐ how to check pupils for response to light.

- ☐ warnings (listed under "Patient education"; write them down and give as a handout).

[3] Patient education should include the following:

- Patient should rest for the next day or so.
- Diet: Only clear liquids (p.75) for the first 12 hours.
- If patient has a bruised area it will help to do the following, to reduce swelling and pain:
 - ☐ for the first 1-2 days, apply cold packs (ice, placed in plastic bag and wrapped in a towel). Apply for 20 minutes. Repeat as needed.
 - ☐ after 1-2 days, apply moist heat (a warm, wet towel). Apply for 20 minutes, about four times a day.
- Signs of a serious head injury may appear days or weeks after the injury. Family should know to contact the CHA/P immediately if patient gets any of the following warnings:
 - ☐ vomiting more than once.
 - ☐ headache, getting worse.
 - ☐ confusion, or strange behavior.
 - ☐ hard to wake up.
 - ☐ eyes: pupils NOT the same size.
 - ☐ trouble talking or breathing.
 - ☐ weakness of arms or legs.
 - ☐ drainage from ear or nose.
 - ☐ seizure (convulsion).

[4] Recheck as follows:

- Recheck in one day, sooner if patient is having problems.
- Examine:
 - ☐ vital signs (T, P, R, BP).
 - ☐ mental status (mind). Check orientation and memory.
- When the time is right, talk about accident prevention. *If problem is related to alcohol* or other drug abuse:
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

ACUTE DRUG ABUSE PROBLEMS: ALCOHOL OR OTHER DRUGS

Begin here if patient is having a physical problem NOW that is caused by alcohol or other drug abuse. This section includes the following problems:

- Alcohol problems:
 - ☐ drunk.
 - ☐ hangover.
 - ☐ alcohol withdrawal ("shakes," DT's).
- Other drug abuse problems:
 - ☐ strange behavior due to drugs.
 - ☐ drug abuse with "bad trip."

General approach:

- Be safe. Get help from others, if needed.
- Act calm and relaxed, even though you may be afraid.
- Reassure patient.
- Quickly but carefully question, examine, and observe. A patient who seems just "drunk" or "on drugs" may have a head injury or other serious problem.

1. Begin Emergency Care

1.1 *If just a hangover* and patient is OK, now go to "2. History."

1.2 First check ABC's: Airway, Breathing, Circulation.

- Be ready to give rescue breathing.

1.3 *If possible head or neck injury*, splint neck and back to prevent movement (p.243).

1.4 Note level of consciousness.

- For example, is patient:
 - ☐ wide awake?
 - ☐ sleepy or confused?
 - ☐ unconscious?
- If very sleepy (very hard to wake up) OR if unconscious:

- ☐ lay patient on his side to help prevent choking on vomit.
- ☐ there may be a cause besides just being drunk or taking a drug. Now go to p.275.

1.5 Treat other emergencies, if needed. For example:

- If violent, treat as for any mental health emergency (p.201).
- If seizure (may happen 12-36 hours after patient stopped drinking or drank less):
 - ☐ protect from injury, as for any seizure:
 - move objects out of the way.
 - do NOT try to stop movements.
 - ☐ if possible, lay patient on his side to help prevent choking.
 - ☐ do NOT put things in mouth.
 - ☐ check blood sugar (glucose).
 - if low blood sugar (less than 80 on Chemstrip® or less than 90 on Dextrostix®) OR if you can NOT check blood sugar, give sugar as on p.59.
 - ☐ if seizure continues, give the same medicine as for any seizure that continues. Now go to p. 271.

1.6 Check vital signs: Rectal temperature, P, R, BP.

- *If low temperature*, consider that hypothermia may be causing the problem (p.335).
- If shock (weak, fast pulse; low BP), now go to p.7.

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Ask patient or someone who knows. Also ask the following specific questions:

[1] Recent drinking and drug abuse history:

- What has patient been taking?
- What amount (how much)?
- For how long?
- When did he take it last?

[2] Does patient have history of other problems of the nervous system, now or in past:

- Feeling faint (light-headed) or fainting (passing out)?

- Feeling dizzy?
- Coordination or balance problems?
- Trouble talking?
- Numbness, tingling, weakness, or trouble moving an arm, leg, or other part of the body?
- Seizures (convulsions)?
- Stroke or other brain/nerve problems?
- "Shakes," hallucinations, or DTs from alcohol?
- Mental health problems, such as:
 - ☐ feeling very nervous (anxious) or shaky?
 - ☐ having lots of worries, stress?
 - ☐ feeling angry?
 - ☐ feeling sad?

[3] Other recent history:

- Head or neck injury within past 4 weeks? *If so, now go to p.260.* Consider that the assessment may be "serious head injury."
- Working with chemicals, or breathing in fumes?

2.2 Past Health History

[1] Illnesses:

- High blood pressure?
- Liver or kidney disease?
- Diabetes? *If so, be sure to check blood sugar (glucose).*

[2] Medicines:

- What medicines is patient taking now?

2.3 Other History

[1] Does patient have other complaints, such as:

- Fever or chills?
- Headache?
- Stiff/sore neck?
- Cough or shortness of breath?
- Nausea or vomiting? *If vomiting, what does the vomit look like? If vomit looks like blood or "coffee grounds," now go to p.80, "Severe Digestive System Bleeding."*
- Abdominal pain?
- Injury?
- Infection?

3. Exam

Do a body survey (p.9) to check for injuries and other problems. Especially check head, neck, and ribs. Also check the following:

3.1 Neck:

- If no head/neck injury, check for signs of meningitis. Have patient bend neck forward to touch chin to chest. If needed, gently push head forward.
 - ☐ if stiff neck or knees that bend or pull up, now go to p.282. Consider that the assessment may be "meningitis."

3.2 Arms:

- Have patient hold out arms and hands in front of him. Look carefully. Are fingers OK, or shaky?

3.3 Nervous system:

- Mental status (mind).
 - ☐ if patient is confused or if he says or does something strange, write down what is abnormal.
 - ☐ thinking. Ask patient, "Do you see or hear things that other people can not?" *If so, find out more.*
 - ☐ orientation. Ask patient:
 - "What is your name?"
 - "Where are you now?"
 - "What is the date?"
- Tendon reflexes:
 - ☐ biceps, in front of elbow.
 - ☐ knee jerk.
- Coordination of movements.

4. Assessment

4.1 Your assessment should be:

Acute drug abuse problem.

4.2 Make a more specific assessment. Use chart 4.2.

4.3 Include in your assessment that the problem is one of the following:

• **Alcohol problem:**

- ☐ **drunk** (intoxicated; Plan 5.1).
- ☐ **hangover** (Plan 5.2).
- ☐ **mild alcohol withdrawal** ("shakes"; Plan 5.3).
- ☐ **severe alcohol withdrawal** (DT's; Plan 5.4).
- **Other drug abuse problem** (Plan 5.5)

5. Plan

5.1 Plan: Drunk

[1] Report to your referral doctor only if you have concerns or questions.

• **Always report if:**

- ☐ patient is a child.
- ☐ history of diabetes.
- ☐ history of taking sedatives or other drugs.
- ☐ patient is unconscious.
- ☐ physical exam is abnormal, in addition to acting drunk.
- While you are waiting to report, follow this plan.

[2] Special care should include the following:

- *If a child or if history of diabetes,* check blood sugar (glucose).
 - ☐ if low blood sugar (less than 80 on Chemstrip® or less than 90 on Dextrostix®) OR if you can NOT check blood sugar, give sugar as on p.59.
- Have someone stay with patient, and care for him as in chart 5.1.

[3] If patient becomes

unconscious, do the following:

- Recheck vital signs: P, R, BP.
- Check blood sugar (glucose).
 - ☐ if low blood sugar (less than 80 on Chemstrip® or less than 90 on Dextrostix®) OR if you can NOT check blood sugar, give sugar as on p.59.
- *If an adult,* give THIAMINE to treat for severe thiamine vitamin deficiency:

Give I.M. shot of **THIAMINE.**

- **Dose: 100 mg.**

- Report to your referral doctor.
- Be ready to give rescue breathing. Very drunk patient may stop breathing.
- Follow other guidelines for "Special Care for the Unconscious Patient," p.279.

Chart 4.2

Acute Alcohol Problems: Assessments and Typical Findings

Assessment	History	Exam
DRUNK [acute alcohol intoxication, too much alcohol] (Plan 5.1)	Has been drinking a lot of alcohol. Acting drunk. <i>If very drunk</i> , may have become confused, sleepy, unconscious.	Alcohol smell on breath. Except for being drunk, rest of exam is normal: <ul style="list-style-type: none"> • Temperature: Normal or low. • <i>Head/neck</i>: NO signs of injury. • <i>Eyes</i>: Pupils equal in size and react OK to light. • Movement and feeling OK on both sides of body.
HANGOVER (Plan 5.2)	Recently drank a lot of alcohol. Often has headache.	<i>Vital signs</i> : T & P normal; BP may be a little high. Rest of exam is normal, including: <ul style="list-style-type: none"> • Normal temperature. • Hands are NOT shaky.
MILD ALCOHOL WITHDRAWAL ["shakes"; lasts 5-7 days, but 2nd or 3rd day of symptoms is worst; may become severe withdrawal] (Plan 5.3)	Recently drank a lot of alcohol, for three days or more. Stopped drinking or drank less, and within 8 hours became shaky. At least 1 of the following: <ul style="list-style-type: none"> • Feels sick, weak, or tired. • Feels very nervous. • Feels sad (depressed) or irritable (angry). • Sweating. • Nausea and vomiting. Other symptoms may include: headache, dry mouth, trouble sleeping ("bad dreams"). May have seizure 12-36 hours after patient stopped drinking or drank less.	<i>General appearance</i> : May look nervous (anxious), sweaty. <i>Vital signs</i> : T normal; P & BP may be a little high. <i>Face</i> : May look a little swollen (puffy). Has "shakes": Shaky hands, arms, eyelids, tongue, sometimes whole body. <i>Lower legs</i> : May have mild swelling (pitting edema). <i>Mental status</i> is OK.
SEVERE ALCOHOL WITHDRAWAL [delirium tremens, DTs; usually lasts 2-3 days] (Plan 5.4)	Recently drank a lot of alcohol, for three days or more. Stopped drinking or drank less: <ul style="list-style-type: none"> • Usually 2-3 days ago (less than a week). • Maybe up to four weeks ago. Often came without warning, but may have started as: <ul style="list-style-type: none"> • Mild alcohol withdrawal. • Seizure. 	<i>General appearance</i> : <ul style="list-style-type: none"> • Usually very shaky and sweaty. • May change quickly from unconscious to very nervous (anxious), afraid. <i>Vital signs</i> : Fever, fast P & R, high BP. <i>Eyes</i> : Pupils may be dilated. <i>Mental status</i> : <ul style="list-style-type: none"> • Talking a lot; does not make much sense. • Thinking: Confused; often has hallucinations that scare him, especially <i>seeing</i> things that are not real. • Orientation may be abnormal.

Chart 5.1

Patient Education CARING FOR A DRUNK PATIENT

1. Reassure the patient.
 - Be firm, if needed, but do NOT argue or get angry with a drunk patient. Arguing may make him violent.
2. Patient should rest, in a quiet place.
 - If possible, patient should lay on side to help prevent choking on vomit.
 - Do NOT let patient go out alone.
3. Stay nearby and watch patient carefully until he is OK.
 - Protect patient from injury.
 - He should slowly become less drunk.
 - Report problems to your CHA/P, especially if patient is:
 - ☐ getting worse, becoming unconscious.
 - ☐ getting shaky.
4. Diet. As soon as possible, patient should begin to eat:
 - It may help to start by eating small amounts often.
 - Prevent low blood sugar:
 - ☐ encourage patient to first drink sweet liquids, such as fruit juice and soda pop.
 - Do NOT give alcohol.
 - If he is taking liquids OK, he should begin to eat solid foods:
 - ☐ a well-balanced diet with food from the four food groups (p.444).

[4] Recheck as follows:

- Recheck on your next clinic day, sooner if needed.
- Repeat history and exam you did on first visit. Check for problems you could not find when patient was drunk.
- If patient has a hangover, go to plan 5.2.

- *If patient is getting shaky*, now treat for mild or severe alcohol withdrawal (Chart 4.2).
- TALK WITH PATIENT ABOUT THE ALCOHOL PROBLEM.
 - ☐ follow the plan on p.204.

5.2 Plan: Hangover

[1] Report to your referral doctor only if you have concerns or questions.

- *Always report if:*
 - ☐ patient is a child.
 - ☐ physical exam is abnormal.
- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 5.2.

Chart 5.2

Patient Education HANGOVER

1. Rest. It may help to lie down in a quiet place.
2. *If you have a headache* the following may help:
 - If needed, take ACETAMINOPHEN (Tylenol®) as directed.
 - ☐ avoid ASPIRIN. It may cause your stomach to bleed.
 - Apply heat followed by cold:
 - ☐ apply each for 2-3 minutes.
 - ☐ for example, soak a cloth in warm water; wring it out; apply it to the area that hurts; after 3 minutes, replace with cold cloth.
 - Massage (rub) the area that hurts.
3. Eat a well-balanced diet with food from the four food groups (p.444).
 - It may help to begin by eating small amounts often.
 - First, drink nourishing liquids, such as soups, milk, juices.
 - If you are doing OK, begin to eat solid foods.
4. Do NOT drink alcohol.
 - See your CHA/P if you are getting shaky, or having other problems.

[3] Recheck as follows:

- Recheck on your next clinic day, sooner if needed.
- *If patient is getting shaky*, now treat for mild or severe alcohol withdrawal (Chart 4.2).
- TALK WITH PATIENT ABOUT THE ALCOHOL PROBLEM.
 - ☐ follow the plan on p.204.

5.3 Plan: Mild Alcohol Withdrawal

[1] Report to your referral doctor.

- Report NOW unless patient is OK and is NOT very shaky.

If you can NOT reach a doctor,

- Follow this plan until you can.
- Consider arranging for transport to hospital if any of the following are also true:
 - ☐ recent history of also taking illegal ("street") drugs.
 - ☐ past history of seizures or DTs.
 - ☐ patient is very shaky or getting worse.
 - ☐ patient has other serious injury or illness, including bleeding, vomiting, mental illness, or infection such as pneumonia.

[2] Special care: Have someone stay with patient, and care for him as in chart 5.3.

[3] Medicine should include the following:

- Give vitamins:

Give **VITAMINS with FOLIC ACID** (Prenatal Vitamins).

- **Dose: One now and once a day for at least 7 days.**

- *If headache or pain*, give ACETAMINOPHEN (Tylenol®), if needed (p.416).
 - ☐ avoid ASPIRIN. It may cause the stomach to bleed.
- *If "heartburn" or indigestion*, give an antacid, if needed (p.81).

[4] If patient becomes very shaky, or if past history of seizures or DTs, do the following:

- Recheck vital signs: T, P, R, BP.
- Report to your referral doctor.

If you can NOT reach a doctor, continue to follow this plan until you can.

- If an adult, medicine should include the following:
 - ☐ give THIAMINE to treat for severe THIAMINE vitamin deficiency:

Give an adult injectable and oral **THIAMINE**.

- **Dose: 100 mg.**
- If possible, give first dose as I.M. shot.
- Give same dose by mouth, **once a day for 7 days.**

- ☐ give a sedative:

Sedatives are listed in order of recommended treatment. Give an adult one of the following:

1. **CHLORDIAZEPOXIDE** (Librium®).

- **Dose: 25-50 mg. by mouth.**

2. **DIAZEPAM** (Valium®).

- **Dose: 5-10 mg. by mouth.**

- Helper can repeat, **if needed for shaking, every 2-4 hours:**

- ☐ give enough medicine so that patient is calm or sleepy, but NOT unconscious.

- Only dispense (give out) a small amount to helper. If patient needs more, helper should contact you and you should recheck patient. Do NOT dispense more than:

- ☐ 250 mg.

CHLORDIAZEPOXIDE (Librium®), or

- ☐ 50 mg. DIAZEPAM (Valium®).

- Unless prescribed by your referral doctor, patient should NOT take more than the following amount in 24 hours:

- ☐ 500 mg.

CHLORDIAZEPOXIDE (Librium®), or

- ☐ 100 mg. DIAZEPAM (Valium®).

- ☐ give MAGNESIUM SULFATE to treat for low body magnesium:

Give an adult I.M. shot of **MAGNESIUM SULFATE**.

- **Dose: 2 Gm.** (4 cc. of 50% MAGNESIUM SULFATE solution).
- If patient is getting worse, your referral doctor may suggest that you repeat the dose every 8 hours, up to a total of 3 doses.

Chart 5.3

Patient Education
CARING FOR A PATIENT WITH
MILD ALCOHOL WITHDRAWAL

1. Reassure the patient.
 - Be firm, if needed, but do NOT argue or get angry with him. Arguing may make him violent.
2. Patient should stay in a quiet, place that is well lighted.
 - It is good for patient to be active, doing things around the house.
 - Do NOT let patient go out alone.
3. Stay nearby and watch patient carefully.
 - Protect patient from injury.
4. Diet. As soon as possible, patient should begin to eat:
 - It may help to start by eating small amounts often.
 - Prevent low blood sugar:
 - ☐ encourage patient to first drink sweet liquids, such as fruit juice and soda pop.
 - Do NOT give alcohol.
 - If he is taking liquids OK, he should begin to eat solid foods:
 - ☐ a well-balanced diet with food from the four food groups (p.444).
5. Report problems to your CHA/P, especially if patient is getting worse (very shaky), becoming confused, or seeing things that are not real.

[5] Recheck as follows:

- Recheck once a day until patient is OK, sooner if needed.
- If patient is getting worse, consider that the assessment may be "severe alcohol withdrawal" (Chart 4.2).

- If patient is getting better and he is on a sedative medicine, slowly stop the medicine over the next few days. For example, each day change how often the medicine is given, as follows:
 - ☐ day 1, if needed, every 4-6 hours.
 - ☐ day 2, if needed, four times a day.
 - ☐ day 3, if needed, three times a day.
 - ☐ day 4, if needed, once a day.
- When the time is right, TALK WITH PATIENT ABOUT THE ALCOHOL PROBLEM.
 - ☐ follow the plan on p.204.

5.4 Plan: Severe Alcohol Withdrawal

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor, do the following:

- If patient only has hallucinations, especially hearing voices that are not there, AND if rest of exam is normal, this is NOT severe alcohol withdrawal.
 - ☐ reassure patient until you can reach a doctor. The doctor may suggest other treatment.
 - ☐ do NOT follow this plan.
- For other patients:
 - ☐ follow this plan until you can reach a doctor.
 - ☐ have someone arrange for transport to hospital as soon as possible. Patient needs I.V. medicine and care at hospital.

[2] Medicine. Give an adult the same medicines as in Plan 5.3, "If patient becomes very shaky":

- Give THIAMINE.
- Give a sedative.
 - ☐ if patient can NOT take oral medicine or if he vomits it, give the same dose I.M., although it may not work as well.
 - warning: Given I.M., CHLORDIAZEPOXIDE or DIAZEPAM may make a patient stop breathing. Be ready to give rescue breathing.
- Give MAGNESIUM SULFATE.

[3] Special care should include the following:

- Reassure the patient.
 - ☐ be firm, if needed, but do NOT argue or get angry with him. Arguing may make him violent.
- Patient should rest, in a quiet place that is well lighted.
- Stay nearby and watch patient carefully.
 - ☐ protect patient from injury.
- Recheck vital signs every 30 minutes: P, R, BP.
- If patient is awake and can swallow without choking:
 - ☐ as soon as possible, to prevent low blood sugar, patient should begin to drink sweet liquids, such as fruit juice and soda pop.
 - ☐ if taking liquids OK, he should begin to eat solid foods.
 - ☐ give vitamins:

Give **VITAMINS with FOLIC ACID** (Prenatal Vitamins).

- **Dose: One now** and plan to give once a day for at least 7 days.

[4] If patient becomes

unconscious, do the following:

- Recheck vital signs: P, R, BP.
- Check blood sugar (glucose).
 - ☐ if low blood sugar (less than 80 on Chemstrip® or less than 90 on Dextrostix®) OR if you can NOT check blood sugar, give sugar as on p.59.
- Report to your referral doctor.
- Start an I.V. (p.427).
 - ☐ use a I.V. fluid that has 5% DEXTROSE.
- Run I.V. at "maintenance rate" (p.434).
- Follow other guidelines for "Special Care for the Unconscious Patient," p.279.

[5] Transport patient to hospital as soon as possible.

[6] Other plan: When the time is right, TALK WITH PATIENT ABOUT THE ALCOHOL PROBLEM.

- Follow the plan on p.204.

5.5 Plan: Other Drug Abuse Problems

Follow this plan for acute drug problems OTHER than allergy (p.318) or poisoning/overdose (p.11).

[1] Report to your referral doctor.

- Report NOW unless the problem is mild and patient seems to be doing fine.
- While you are waiting to report, follow this plan.

[2] Special care: Have someone stay with patient, and care for him as in chart 5.5.

Chart 5.5

Patient Education CARING FOR A PATIENT "ON DRUGS"

1. Reassure the patient.
 - Be firm, if needed, but do NOT argue or get angry. Arguing may make him violent.
2. Patient should rest, in a quiet place.
 - *If very sleepy*, patient should lay on side to help prevent choking on vomit.
 - Do NOT let patient go out alone.
3. Stay nearby and watch patient carefully until he is OK.
 - Protect patient from injury.
 - Patient should slowly get better as the drug wears off.
 - Report problems to your CHA/P, especially if patient is getting worse, becoming unconscious.
4. Do NOT give any drugs or alcohol unless prescribed by the doctor.
5. Diet. As soon as possible, patient should begin to eat:
 - It may help to start by eating small amounts often.
 - Prevent low blood sugar:
 - ☐ encourage patient to first drink sweet liquids, such as fruit juice and soda pop.
 - If he is taking liquids OK, he should begin to eat solid foods:
 - ☐ a well-balanced diet with food from the four food groups (p.444).

[3] If patient becomes unconscious, do the following:

- Recheck vital signs: P, R, BP.
- Check blood sugar (glucose).
 - ☐ if low blood sugar (less than 80 on Chemstrip® or less than 90 on Dextrostix®) OR if you can NOT check blood sugar, give sugar as on p.59.
- Report to your referral doctor.
- *If patient may have had a narcotic medicine*, such as HEROIN or MORPHINE, give medicine that will help to wake him up:

Give I.M. shot of **NALOXONE** (Narcan®; 0.4 mg./ml.).

Weight	Approximate Age	Dose
14 lbs. or less	3 mo. or less	0.08 mg. (0.2 cc.)
15-24 lbs.	4-17 mo.	0.16 mg. (0.4 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	0.24 mg. (0.6 cc.)
35-49 lbs.	4-6 yrs.	0.4 mg. (1.0 cc.)
50-64 lbs.	7-8 yrs.	0.48 mg. (1.2 cc.)
65 lbs. or more	9 yrs. or more	2.0 mg. (5 cc.)

- After five minutes, if patient is still unconscious or very sleepy, repeat this dose one time.

- Be ready to give rescue breathing.
- Follow other guidelines for "Special Care for the Unconscious Patient," p.279.

[4] Other plan for specific drug

abuse. In addition to the above plan, consult your drug reference or use the following information that applies:

For drugs breathed in, such as gasoline and glue sniffing:

- Move patient into fresh air.
- Treat as for other poisons breathed in. Now go to p.14.

For sedatives, tranquilizers and narcotics:

- Stimulate patient. Try to keep him awake.
- Stay with patient. He may stop breathing.

For stimulants, such as amphetamines ("speed") and cocaine:

- Watch patient carefully. He may:
 - ☐ see or hear things that are not there.
 - ☐ become violent.
 - ☐ hurt himself.
 - ☐ have a seizure. *If so:* protect him from injury, as for any seizure:
 - move objects out of the way.
 - do NOT try to stop movements.
 - if possible, lay patient on his side, to prevent choking.
 - do NOT put things in mouth.
- Recheck patient's temperature every 30-60 minutes. Stimulants can cause a high fever.
- *If patient took amphetamines ("speed"), is very nervous, and has a fast pulse, your referral doctor may suggest that you treat as an overdose (p.12, "Poisoning by Mouth").*

For Hallucinogens, such as LSD ("acid"), PCP, and peyote:

- Be especially calm. Avoid frightening patient.
- Be ready to protect patient from injury if he tries to do something dangerous.
- Have a friend of the patient stay with him and reassure him:
 - ☐ talk quietly with him ("talk him down"). Help him to understand what is real and what he is imagining.
 - ☐ *If talking makes patient violent (may happen with PCP), just stay quiet.*

[5] Recheck as follows:

- Recheck on your next clinic day, sooner if needed.
- Repeat history and exam you did on first visit. Check for problems you could not find before.
- TALK WITH PATIENT ABOUT THE DRUG PROBLEM.
 - ☐ follow the plan on p.204.

HEADACHE

Begin here if patient complains of headache (pain in the head) from unknown cause.

- *If infant*, this is the wrong symptom. Go to p.197, "Approach to the Sick Child."

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] How did the headache start?

- Before headache started, did patient have a warning feeling that it was going to start, such as a change in vision?

[2] Does patient have history of other problems of the nervous system, now or in past:

- Feeling faint (light-headed) or fainting (passing out)?
- Feeling dizzy?
- Coordination or balance problems?
- Trouble talking?
- Numbness, tingling, weakness, or trouble moving an arm, leg, or other part of the body?
- Seizures (convulsions)?
- Stroke or other brain/nerve problems?
- "Shakes" or DTs from alcohol?
- Mental health problems, such as:
 - ☐ feeling very nervous (anxious)?
 - ☐ having lots of worries, stress?
 - ☐ feeling angry?
 - ☐ feeling sad?

[3] Recent history:

- Head or neck injury within past 4 weeks? *If so*, now go to p.260. Consider that the assessment may be "serious head injury."
- Drinking alcohol or taking other drugs? *If so:*
 - ☐ when?
 - ☐ how much?
 - ☐ maybe he forgot a head injury.
- Working with chemicals or breathing in fumes (exhaust)?

1.2 Past Health History

[1] Illnesses:

- Sinus problems?
- High blood pressure?
- Arthritis?

[2] Medicines:

- What medicines is patient taking now, including birth control pills?

[3] If a woman, is she pregnant? If so, now go to p.161. Consider that the assessment may be "preeclampsia."

1.3 Other History

[1] Does patient have any other problems or complaints, such as:

- Fever or chills?
- Headcold symptoms (stuffy, runny nose; sore throat)?
- Eye problems:
 - ☐ sensitive to bright light?
 - ☐ eye pain?
 - ☐ change in vision?
 - ☐ if adult has severe eye pain and blurry vision, the assessment may be "acute glaucoma." Check eye pressure (p.377).
- Ear problems?
- Toothache?
- Stiff/sore neck?
- Nausea or vomiting?

[2] Is there a family history of the same problem?

2. Exam

2.1 General appearance.

2.2 Vital signs: T, P, R, BP.

2.3 Head:

- Feel for:
 - ☐ injuries.
 - ☐ tenderness in same place where patient feels the headache.
 - if patient complains of pain in sinus area, press on the sinuses for about 10 seconds (p.374).

2.4 Ears:

- Eardrums.

2.5 If toothache, examine teeth in that area, including:

- Tap gently on each tooth to check for tenderness.

2.6 Neck:

- Feel for enlarged lymph nodes.

- Pulses, carotid:
 - ☐ feel one at a time. Compare one side of body to other.
 - ☐ listen with stethoscope for abnormal swishing sound of blood flowing through artery (bruit).
- If no head/neck injury:
 - ☐ check for signs of meningitis: gently push head forward, chin to chest. Look for:
 - stiff neck, or
 - knees that bend or pull up.
 - ☐ check for sore muscles: Have patient move head from side to side, ear toward shoulder.

2.7 Nervous system:

- Mental status (mind). *If patient is sleepy or confused, or if he says or does something strange*, write down what is abnormal and do a more complete mental status exam (p.410).
- Nerves of the head:
 - ☐ face muscles: raise eyebrows; show teeth.
 - ☐ feeling on face, with light touch.
 - ☐ eyes:
 - pupils: size, reaction to light.
 - eye muscles: ask patient to look at your finger as you slowly move it in a large circle.
 - ☐ hearing.
 - ☐ mouth and throat:
 - sticking tongue out.
 - uvula hanging, saying "Ah."
 - gag.
- Muscle movement & strength:
 - ☐ head (turning).
 - ☐ shoulders (shrug).
 - ☐ arms (elbow movement).
 - ☐ hands (grasp).
 - ☐ legs (knee movement).
- Feeling (sensation) with light touch:
 - ☐ hands.
 - ☐ feet.
- Tendon reflexes:
 - ☐ biceps, in front of elbow.
 - ☐ knee jerk.
- Coordination of movements.

3. Assessment

3.1 Your assessment should be: Headache.

3.2 Make a more specific assessment.

- Most headaches are caused by muscle tension or by an illness such as a headcold.
- Use chart 3.2.

3.3 Include in your assessment that the problem is one of the following:

- **Muscle tension headache** (Plan 4.1).
- **Migraine headache** (Plan 4.2).
- **Other or unknown cause of headache** (Plan 4.3).

4. Plan

4.1 Plan: Muscle Tension Headache

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- *Always report if patient has recurrent headaches that you have not reported before or that are changing, getting worse.*
- While you are waiting to report, follow this plan.

[2] Patient education should include the following:

- Reassure patient.
- Give information in chart 4.1.

[3] Medicine may be given if needed, as follows:

- Give ASPIRIN OR ACETAMINOPHEN (p.416).
- Do NOT give a stronger pain medicine or a muscle relaxant such as DIAZEPAM (Valium®), unless the doctor prescribes it.
 - ☐ these medicines are habit forming, a problem especially if patient has recurrent headaches.

[4] Other plan should include the following:

- Consider other assessments:
 - ☐ anxiety or nervousness (p.207).
 - ☐ depression or sadness (p.208).
- If needed, help patient to talk about problems and feelings. Follow general guidelines for talking and counseling (p.219).

Chart 4.1

Patient Education MUSCLE TENSION HEADACHE

1. When you have a headache, it may help to do the following to relax the muscles:
 - Apply heat followed by cold:
 - ☐ apply each for 2-3 minutes.
 - ☐ for example, soak a cloth in warm water; wring it out; apply it to the area that hurts; after 3 minutes, replace with cold cloth.
 - Massage (rub) your neck, scalp, and face. If possible, have someone do this for you.
 - If pain is severe, rest at home. It may help to lie down and sleep in a dark room.
2. Prevent headaches:
 - Avoid keeping your neck in one position for a long time, such as while sewing or riding a snow-machine.
 - ☐ move around.
 - ☐ stretch your neck more often.
 - Follow guidelines for reducing stress (p.221).

- Other plan depends on your referral doctor's assessment and may include:
 - ☐ keeping a headache diary to help decide what is causing the headaches and to see how patient is doing.
 - ☐ giving other medicine, such as medicine for depression.

[5] Recheck as follows:

- Recheck for headache only if needed. Tell patient to return to clinic in 2-3 days if NOT feeling better, sooner if feeling worse.
- *If patient still has headache*, repeat the exam you did on first visit.

4.2 Plan: Migraine Headache

[1] Report to your referral doctor, unless he has already given you a plan for this patient's headaches.

Chart 3.2

Headache: Two Assessments and Typical Findings

Assessment	History	Exam
MUSCLE TENSION HEADACHE [tension headache, muscle contraction headache] (Plan 4.1)	Often recurrent headaches: <ul style="list-style-type: none"> • Brought on by muscle tension, stress (anxiety or nervousness), lack of sleep, noise, or glare (squinting with bright light). • NO warning feeling. • Starts slowly; may get worse through the day. • Lasts a long time (days to weeks). • On both sides of head; usually in back of head & neck; may cover an area like headband or cap. • Dull, aching pain; tight feeling; usually constant, steady; NOT throbbing. Usually NO nausea or vomiting.	<i>Vital signs:</i> Normal. <i>Head/neck muscles:</i> <ul style="list-style-type: none"> • May be tight, tender to touch. • May hurt when moving head to one side or other. <i>Nervous system:</i> Normal.
MIGRAINE HEADACHE [vascular headache; related to spasm of blood vessels in head] (Plan 4.2)	Often recurrent headaches, since a teenager: <ul style="list-style-type: none"> • May be brought on by stress (exercise, anxiety, nervousness), lack of sleep, missed meals, certain foods (chocolate), alcohol, time in menstrual cycle, birth control pills. • May begin during sleep. • Before headache starts, patient may have warning feeling, such as a change in vision (may see black spots or flashing lights). • Starts fairly quickly, but NOT all of a sudden; gets worse for an hour or so. • Lasts for few hours or more. • Usually on one side of forehead, but not always same side. • Severe pain; usually throbbing. Other complaints: <ul style="list-style-type: none"> • Nausea, vomiting, sensitive to light. • Rarely has other complaints of nervous system. May have family history of same headaches.	<i>Vital signs:</i> Normal. <i>Nervous system:</i> Usually normal.

- Always report if recurrent headaches are changing, getting worse.
- While you are waiting to report, follow this plan.

[2] Patient education for migraine headache should include the following:

- Reassure patient.
- Patient should lie down and sleep or rest in a dark room.

[3] Medicine should be given as soon as possible:

- If patient has special medicine for migraine headache, give it as directed.
- If patient does NOT have special medicine, give ASPIRIN or ACETAMINOPHEN (p.416).
 - ☐ do NOT give ASPIRIN if nervous system exam is abnormal, unless the doctor says it is OK.

- Do NOT give a stronger pain medicine, unless the doctor prescribes it.

[4] Other plan depends on your referral doctor's assessment and may include the following:

- Patient education. Handouts should be available through your referral hospital or other sources.

Information may include:

- ☐ avoiding birth control pills.
- ☐ eating a special diet, which includes:
 - avoiding alcohol.
 - having meals at regular times.
- ☐ reducing stress (p.221).
- ☐ keeping a headache diary to help decide what is causing the headaches and to see how patient is doing.
- Medicine, which may include:
 - ☐ special medicine for relief of migraine headache. Example: ERGOTAMINE TARTRATE (Cafergot®).
 - ☐ medicine for prevention of migraine headache, if patient has frequent attacks. Example: PROPRANOLOL (Inderal®).

[5] Recheck as follows:

- Recheck in one day if exam was abnormal or if patient still has headache then. Recheck sooner if patient is very sick or feeling worse.
- *If patient still has headache*, repeat the exam you did on first visit.

4.3 Plan: Other or Unknown Cause of Headache

[1] Consider other assessments as follows:

- If stiff neck or fever, consider meningitis (p.282).
- If abnormal nervous system exam, consider stroke or other brain problem (p.283).
- *If you have found another problem/illness* not covered above that may be causing the headache, follow the plan for that problem in this manual. Examples:
 - ☐ head injury (p.259).
 - ☐ headcold (p.299).
 - ☐ sinus infection (p.299).
 - ☐ ear infection (p.90).
 - ☐ toothache (p.229).
 - ☐ strep throat (p.299).
 - ☐ arthritis of the neck (p.245).
 - ☐ flu (p.300).
 - ☐ hangover (p.261).
 - ☐ anxiety or nervousness (p.207).
 - ☐ depression or sadness (p.208).
 - ☐ high blood pressure may rarely cause a headache (p.30).

[2] Report to your referral doctor unless headache is mild, exam is normal, and doctor has signed for you to treat this problem without contacting him.

- *Report NOW* if patient has any of the following:
 - ☐ severe headache or very sick appearance.
 - ☐ high fever.
 - ☐ stiff neck.
 - ☐ abnormal nervous system exam, including if patient is sleepy or confused.
- *Always report* if patient has:
 - ☐ headache only on one side of head.
 - ☐ recurrent headaches that you have not reported before or that are changing, getting worse.
- While you are waiting to report, follow this plan.

[3] Medicine may be given if needed, as follows:

- Most headaches are helped by ASPIRIN OR ACETAMINOPHEN (p.416).
 - ☐ do NOT give ASPIRIN if nervous system exam is abnormal, unless the doctor says it is OK.
- Do NOT give a stronger pain medicine, unless the doctor prescribes it.

[4] Other plan should include the following:

- Reassure patient.
- It may help to follow the same patient education as for muscle tension headache (Chart 4.1).
- Other plan depends on your referral doctor's assessment and may include:
 - ☐ other exam, special tests.
 - ☐ giving other medicine, such as trial of medicine for migraine headache or for depression.
 - ☐ keeping a headache diary to help decide what is causing recurrent headaches and to see how patient is doing.

[5] Recheck as follows:

- Recheck in one day if exam was abnormal or if patient still has headache then. Recheck sooner if patient is very sick or feeling worse.
- *If patient still has headache*, repeat the exam you did on first visit.

SEIZURE (Convulsion)

Begin here if patient is having a seizure now or just had one.

1. Emergency Care

1.1 Emergency Care for All Seizures

[1] Protect from injury:

- Move objects out of the way.
- Do NOT try to stop movements.
- *If possible head or neck injury* happened before or during the seizure, treat patient as if he has a spine injury:
 - ☐ when possible, splint neck and back to prevent movement (p.243).

[2] Check ABC's: Airway, Breathing, Circulation.

- Keep airway open:
 - ☐ if possible, lay patient on his side to help prevent choking.
 - ☐ do NOT put things in mouth during seizure.

[3] When seizure stops:

- Check vital signs: Rectal temperature, P, R, BP.
 - ☐ if abnormal pulse rate or rhythm, consider that this may be causing the problem.
 - if age 3 yrs. or more, now go to p.23.
 - ☐ if shock (weak, fast pulse; low BP), now go to p.7.
 - ☐ if diastolic BP (bottom number) is more than 115, consider that dangerously high BP may be causing the problem.
 - if adult, now go to p.30.

- Note level of consciousness.
 - ☐ for example, is patient:
 - wide awake?
 - sleepy or confused?
 - sleeping?
 - ☐ if sleeping, what will make patient wake up:
 - voice calling his name?
 - pain? (Squeeze shoulder-to-neck muscle; press/rub breastbone hard with your knuckle.)
 - if patient will NOT wake up, now go to p.275, "Unconscious Patient."
 - ☐ plan to recheck level of consciousness often. Write down and report if getting worse.
- Now go to "2. History."

1.2 If Seizure Continues

If seizure is lasting longer than 5 minutes OR if patient has more than one seizure without waking up, do the following to stop the seizure:

- [1]** Give OXYGEN, especially if patient has blue color (cyanosis).
 - Follow guidelines on p.435.
- [2]** Decide if you should give sugar.
 - Quickly check blood sugar (glucose).
 - ☐ if low blood sugar (less than 80 on Chemstrip® or less than 90 on Dextrostix®), give sugar as on p.59.
 - ☐ if you can NOT check blood sugar quickly, give sugar in these cases:
 - if newborn, give sugar as on p.186.
 - if history of diabetes or recent history of drinking a lot of alcohol, give sugar as on p.59.

[3] Medicine. Give a shot to stop the seizure. *Medicines are listed in order of recommended treatment.* Give one of the following:

Give I.M. shot of
PHENOBARBITAL
(130 mg./1 ml. Tubex®):

Weight	Approximate Age	Dose
17 lbs. or less	6 mo. or less	65 mg. (0.5 ml.) (½ Tubex®)
18-27 lbs.	7 mo. thru 1 yr.	100 mg. (0.75 ml.) (¾ Tubex®)
28-34 lbs.	2-3 yrs.	130 mg. (1.0 ml.) (1 Tubex®)
35-39 lbs.	4 yrs.	165 mg. (1.25 ml.) (1¼ Tubex®)
40-49 lbs.	5-6 yrs.	180 mg. (1.5 ml.) (1½ Tubex®)
50 lbs. or more	7 yrs. or more	260 mg. (2 ml.) (2 Tubex®)

OR:

Give I.M. shot of **DIAZEPAM** (Valium®; 5 mg./ml.)

- If adult or child 6 years or more, give into upper arm muscle (deltoid).
- Warning: Valium® may make a patient stop breathing, especially a child. Be ready to do rescue breathing.

Weight	Approximate Age	Dose
17 lbs. or less	6 mo. or less	2 mg. (0.4 ml.)
18-27 lbs.	7 mo. thru 1 yr.	3 mg. (0.6 ml.)
28-31 lbs.	2 yrs.	4 mg. (0.8 ml.)
32-34 lbs.	3 yrs.	4.5 mg. (0.9 ml.)
35-49 lbs.	4-6 yrs.	5.0 mg. (1.0 ml.)
50-69 lbs.	7-9 yrs.	7.5 mg. (1.5 ml.)
70 lbs. or more	10 yrs. or more	10 mg. (2.0 ml.)

[4] Report to your referral doctor. **If you can NOT reach a doctor,** follow this plan until you can.

[5] If seizure does NOT stop:

- Have someone arrange for transport to hospital as soon as possible.
- Repeat PHENOBARBITAL or DIAZEPAM (Valium®) shot every 30 minutes until seizure stops, but do not give more than 3 doses total.
 - ☐ stay with patient. Be ready to do rescue breathing.
 - ☐ recheck BP every 10 minutes.

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] How did the seizure start?

- Before seizure started, did patient have a warning (strange feeling, "aura")?

[2] What exactly happened? Ask someone who saw the seizure:

- What movements did patient make? Did both sides of his body move the same?
- Did he urinate or have a bowel movement?
- Did he injure himself?
- How many times did patient have a seizure?
 - ☐ how long did each seizure last?

[3] How did patient feel when he woke up?

- Was he sleepy or confused?
- Did he have a headache?
- How long was it before he felt normal?

[4] If history of seizure disorder (epilepsy):

- Did patient forget to take his medicine?
- If a child, has he been on same dose of medicine even though his weight has increased?

[5] Does patient have history of other problems of the nervous system, now or in past:

- Feeling faint (light-headed) or fainting (passing out)?
- Feeling dizzy?

- Coordination or balance problems?
- Trouble talking?
- Numbness, tingling, weakness, or trouble moving an arm, leg, or other part of the body?
- Stroke or other brain/nerve problems?
- "Shakes" or DTs from alcohol?
- Mental health problems such as depression, suicide attempt, or medicine/drug overdose? *If so,*
 - ☐ have someone look for a container of medicine nearby.
 - ☐ if your assessment is overdose, now go to p.11.

[6] Recent history:

- Head or neck injury within past 4 weeks? *If so,* now go to p.260. Consider that the assessment may be "serious head injury."
- Drinking alcohol or taking illegal ("street") drugs? *If so:*
 - ☐ what?
 - ☐ when?
 - ☐ what amount (how much)?
 - ☐ maybe he forgot a head injury.

2.2 Past Health History

[1] Illnesses:

- Heart trouble?
- High blood pressure?
- Diabetes?

[2] Medicines:

- What medicines is patient taking now?

[3] If a woman, is she pregnant? *If so,* now go to p.163.

2.3 Other History

[1] Does patient have any other problems or complaints, such as:

- Fever or chills?
- Headache?
- Stiff/sore neck?

3. Exam

3.1 General appearance.

3.2 Repeat vital signs: P, R, BP.

3.3 *If possible injury,* as you examine, look and feel for injuries (especially head and neck).

3.4 *If child:*

- Weight.
- If infant, feel head for bulging soft spot (fontanelle).

3.5 Ears:

- Eardrums.

3.6 Neck:

- If no head/neck injury, check for signs of meningitis: gently push head forward, chin to chest. Look for:
 - ☐ stiff neck, or
 - ☐ knees that bend or pull up.
- If adult, check pulses, carotid:
 - ☐ feel one at a time. Compare one side of body to other.
 - ☐ listen with stethoscope for abnormal swishing sound of blood flowing through artery (bruit).

3.7 Heart:

- Heart sounds.

3.8 Chest:

- Breath sounds on both sides.

3.9 Nervous system:

- Orientation. Ask patient:
 - ☐ "What is your name?"
 - ☐ "Where are you now?"
 - ☐ "What is the date?"
- Nerves of the head:
 - ☐ face muscles: raise eyebrows; show teeth.
 - ☐ feeling on face, with light touch.
 - ☐ eyes:
 - pupils: size, reaction to light.
 - eye muscles: ask patient to look at your finger as you slowly move it in a large circle.
 - ☐ mouth and throat:
 - sticking tongue out.
 - uvula hanging, saying "Ah."
 - gag.
- Muscle movement & strength:
 - ☐ head (turning).
 - ☐ shoulders (shrug).
 - ☐ arms (elbow movement).
 - ☐ hands (grasp).
 - ☐ legs (knee movement).
- Feeling (sensation) with light touch:
 - ☐ hands.
 - ☐ feet.
- Tendon reflexes:
 - ☐ biceps, in front of elbow.
 - ☐ knee jerk.
- Coordination of movements.

3.10 Lab test:

- Blood sugar (glucose), if NOT checked already.
 - ☐ if low blood sugar (less than 80 on Chemstrip® or less than 90 on Dextrostix®), give sugar as on p.59.

4. Assessment

4.1 Your assessment should be: Seizure

- Use chart 4.1, if needed.

Chart 4.1

SEIZURE: TYPICAL FINDINGS

Seizure = convulsion, fit, grand mal seizure, generalized tonic-clonic seizure.

History:

- Maybe patient had warning (strange feeling, aura) before seizure started.
- As seizure started, often:
 - ☐ patient passed out all of a sudden (more quickly than with fainting).
 - ☐ body got stiff; patient fell forward, maybe causing injury.
- During the seizure, often patient:
 - ☐ made a noise (cry, grunt, crowing noise).
 - ☐ stopped breathing for a short time. Maybe turned blue (cyanotic). Then had noisy breathing.
 - ☐ had clenched jaw, maybe with saliva coming from mouth or with biting tongue.
 - ☐ had stiff muscles, followed by repeated jerking movements of arms/legs.
 - ☐ urinated or had bowel movement.
- After seizure stopped:
 - ☐ body was very relaxed.
 - ☐ patient woke up, but probably was sleepy, had headache and no memory of seizure.

Exam:

- Patient does NOT usually look pale or sweaty (as with fainting).
- For a few minutes after waking up (postictal), patient is often very sleepy, confused, or has abnormal finding on exam of nervous system.

4.2 Make a more specific assessment. Use chart 4.2.

Chart 4.2

Seizure (Convulsion): Some Assessments and Typical Findings

Assessment	History	Exam
CHILD WITH FEVER & KNOWN FEBRILE SEIZURES [febrile = fever] (Plan 5.1)	Age 3 months to 5 years. History of this problem. Short seizure, less than 5 minutes. NOT sleepy right after seizure.	Fever. Nervous system exam is normal.
KNOWN SEIZURE PATIENT [epilepsy] (Plan 5.2)	History of seizures. Maybe missed medicine dose OR <i>child</i> is on same dose even though weight has increased. Same history as with seizures in the past.	For a few minutes after waking up, patient is often very sleepy, confused, or has abnormal exam of nervous system. Rest of exam is normal.
MENINGITIS [infection of meninges, the membranes that cover brain and spinal cord] (Plan: p.284)	Fever. Severe headache. Loss of appetite. Vomiting. <i>If an infant:</i> May act fussy; cries when picked up or moved.	Looks very sick; may be sleepy, confused. Fever. Stiff neck; or knees may bend or pull up when neck is bent forward. <i>If an infant:</i> • May NOT have fever or stiff neck. • May have high pitched or weak cry. • NOT interested in things going on around him. • Bulging soft spot.

4.3 Include in your assessment that the problem is one of the following:

- **Child with fever and known febrile seizures** (Plan 5.1).
- **Known seizure patient** (epilepsy; Plan 5.2).
- **Meningitis** (Plan: p.284).
- **Serious head injury** (Plan: p.260).
- **Acute drug abuse problem** (alcohol or other drugs; Assessment: p.262).
- **Other or unknown cause of seizure** (Plan 5.3).

5. Plan

5.1 Plan: Child with Fever and Known Febrile Seizures

[1] Bring down temperature if rectal temperature is 101° or more:

- Remove clothing.
- Medicine: Give ACETAMINOPHEN (Tylenol®) in dose for age (p.416).
- If needed, it may help to sponge with lukewarm water.

[2] Report to your referral doctor. Report NOW if child looks very sick or has more than one seizure.

- While you are waiting to report, follow this plan.

[3] If you have found another problem that is causing the fever, such as an ear infection, strep throat, pneumonia, or other illness, follow the plan for that problem in this manual.

[4] Other plan should include the following:

- Arrange for transport to hospital only if you can NOT reach a doctor and one of the following is true:
 - ☐ child still looks very sick when temperature is down to 102° or less.
 - ☐ child has more than one seizure.
- Patient education should include information in chart 5.1.

[5] Recheck as follows:

- Recheck every 4 hours until exam is normal.
- Examine:
 - ☐ temperature.
 - ☐ general appearance.
 - ☐ *if child is NOT getting better*, look for other problems. Now go to p.197, "Approach to the Sick Child."

- If doctor puts child on seizure medicine, follow the plan for long-term care on p.274.

5.2 Plan: Known Seizure Patient

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Special care should include the following:

- If you found other problems, treat as in this manual.
- Patient should rest, in a quiet place.
- Have someone stay with patient for the next 12 hours or so.

[3] If on medicine, more may be needed.

- If patient missed medicine dose OR if child is on same dose but weight has increased, give patient his usual dose of medicine as soon as he is awake and able to swallow without choking.

[4] Recheck in one day, sooner if patient is having problems.

- Follow the long-term care plan on p.274.

Chart 5.1

**Patient Education
FEBRILE SEIZURES
(Convulsions in a Child
with Fever)**

1. This assessment must be made by your doctor, who probably will want to do special tests the first time.
2. When your child has a high fever with rectal temperature 101° or more:
 - Child may have another seizure.
 - Reduce the fever:
 - ☐ remove clothing.
 - ☐ give ACETAMINOPHEN (Tylenol®) in dose for weight (p.416).
3. Learn emergency care for a seizure, and teach others who may be alone with your child (family, baby-sitters, teachers):
 - Protect from injury:
 - ☐ move objects out of the way.
 - ☐ do NOT try to stop movements.
 - Lay child on his side to help prevent choking.
 - Do NOT put things in mouth.
 - Time the seizure. Your CHA/P will want to know how long it lasted.
 - After the seizure stops:
 - ☐ see your CHA/P, who will need to examine the child for other causes of seizures.
 - ☐ child should rest, in a quiet place.
 - ☐ have someone stay with child until he has been OK for 12 hours or so.
4. A febrile seizure should NOT harm the child and does NOT mean the child has epilepsy.

**5.3 Plan: Other or Unknown
Cause of Seizure**

If a more specific plan for the problem is not covered above, follow this plan.

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor:

- Continue to follow this plan until you can.
- Have someone arrange for transport to hospital.

[2] Transport to hospital as soon as possible. While you are waiting, and during transport, your plan should include the following:

- Patient should rest, in a quiet place.
- Stay nearby.
 - ☐ reassure patient.
 - ☐ observe. Be ready to treat another seizure.
- Recheck vital signs every hour, more often if needed: P, R, BP.
- If patient is awake and can swallow without choking, allow him to drink clear liquids.
- If patient can NOT swallow without choking, your plan should include the following:
 - ☐ diet: nothing by mouth.
 - ☐ if patient needs fluid to prevent dehydration:
 - start an I.V. (p.427). Use 5% DEXTROSE AND 0.9% SODIUM CHLORIDE, if available.
 - run I.V. at "maintenance rate" (p.434). Avoid running it faster than maintenance rate, to prevent swelling of brain.

SEIZURE PROBLEM: LONG-TERM CARE

Seizure (convulsion) problem (disorder) = epilepsy

Begin here for long-term care of patient with a seizure problem. This includes child with febrile (fever) seizures who was put on seizure medicine.

1. Get Information From the Doctor

You will need to know the doctor's assessment and plan, including:

1.1 Medicine: For each medicine patient is supposed to take, find out the following:

- Name.
- Dose.
- How often patient should take it.
- Warnings and side effects patient should look for.
- Possible problems when taking other medicine at the same time (drug interactions).

• When should prescription be changed (increased or stopped)?

1.2 Are there any special problems or symptoms to watch for in this patient?

- How well are the seizures controlled?

1.3 Is there other special patient education, such as things the patient should avoid (maybe boating alone or driving a car)?

1.4 Does patient need any special appointments or tests? If so, how will these be arranged?

2. Get History From Patient

2.1 If on medicine:

- Does patient take medicine as directed?
- Are there side effects or problems from the medicine, such as:
 - ☐ swollen, sore gums?
 - ☐ coordination or balance problems?

2.2 Has patient had any seizures since his last visit? If possible, ask a family member also, since patient may not remember a seizure. *If patient has had seizures*, find out how many he has had, and ask about each seizure:

- Did he forget his medicine before the seizure?
- Had he been drinking alcohol?
- What happened during the seizure? Was there a change from patient's usual seizure?

2.3 Does patient have any problems related to seizures?

- Are there problems with job or school or family?

3. Exam

Check for changes from patient's usual exam:

3.1 Vital signs: P, BP.

3.2 If a child:

- Height, weight.
- Head circumference (up to 3 years).
- Plot measurements on child's growth chart.
- Decide if child is growing normally.

3.3 If taking seizure medicines, also check:

- Mouth: Are gums swollen (enlarged)?
- Coordination:
 - ☐ walking.
 - ☐ balance (standing on 1 foot).
 - ☐ finger-to-nose test.

4. Assessment

4.1 Your assessment should include:

Seizure problem: long-term care.

4.2 Also include in your assessment:

- "Doing well," if no problems.
- Number of seizures since last visit.
- Problems with medicine:
 - ☐ side effects.
 - ☐ NOT taking as directed.
- Other problems you have found.

5. Plan

5.1 Patient education is important.

Talk with family at the same time, if needed.

- Get patient education handouts from your referral hospital or other sources.
- Give information in Chart 5.1

5.2 If on medicine, your plan should include the following:

- Discuss importance of taking medicine.
 - ☐ patient should let you know when he is running low, in time to get a refill.
- Remind patient about warnings and possible side effects.
 - ☐ if side effect can be gum problems, remind patient about

Chart 5.1

Patient Education SEIZURE PROBLEM

We do NOT always know what causes a seizure, but we do know about treatment and prevention:

1. Avoid alcohol and other drugs the doctor says may cause problems.
2. Learn emergency care for a seizure, and teach others who may be alone with you (family, friends):
 - Protect from injury:
 - ☐ move objects out of the way.
 - ☐ do NOT try to stop movements.
 - If possible, lay patient on his side to help prevent choking.
 - Do NOT put things in mouth.
3. If you have a seizure:
 - Report it to your CHA/P.
 - After the seizure stops:
 - ☐ you should rest, in a quiet place.
 - ☐ have someone stay with you until you have been OK for 12 hours or so.
4. In general, you should live a normal life:
 - Be involved in family activities.
 - Do normal activities for your age: school, work, other.
 - If you still have seizures, avoid activities in which having a seizure may be a danger to your life, such as:
 - ☐ driving.
 - ☐ boating alone.
 - ☐ climbing in high places.
 - ☐ using dangerous machinery.

prevention of dental disease, including brushing and flossing (p.234).

- If side effects, treat as recommended by your referral doctor.
- Give patient a refill, if needed.

5.3 Recheck: Make appointment for next visit. If doing well, see patient every 3 months.

5.4 Report to your referral doctor:

- If possible, send a copy of your SOAP note to the doctor. Contact him sooner if you found any problems.
- Report changes in patient's seizures, such as change in number of seizures or change from patient's usual seizure.

5.5 Other plan should include the following:

- Order more medicines, if needed.
 - ☐ fill out the pharmacy refill request, if needed.
 - ☐ if a child, include weight when you order, so dose can be increased as he grows.
- Check to see that:
 - ☐ patient's name is on list of patients to be seen on a field trip by doctor, dentist, PHN.
 - ☐ this chronic problem and patient's medicines are written on patient's problem list.
- If needed, give patient education to others. Reassure them that a seizure is NOT a mental health problem.

UNCONSCIOUS PATIENT

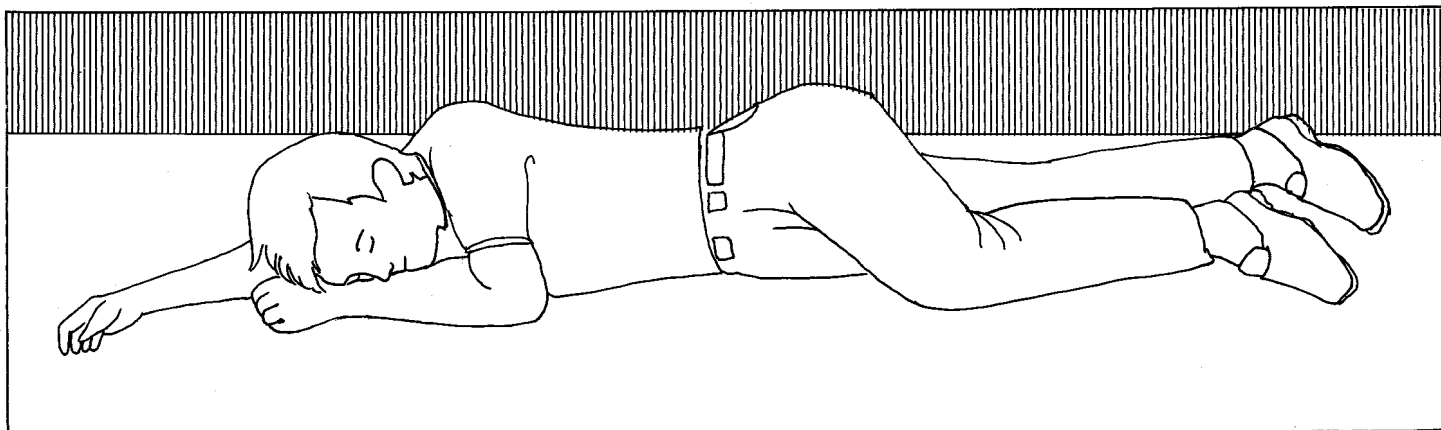
Begin here if patient is very sleepy (very hard to wake up) or unconscious (passed out) from cause OTHER than obvious injury (accident).

General approach: Quickly but carefully question, examine, and observe. A patient who seems just "drunk" or "on drugs" may have a head injury or other serious problem.

1. Begin Emergency Care

1.1 First treat life threatening problems:

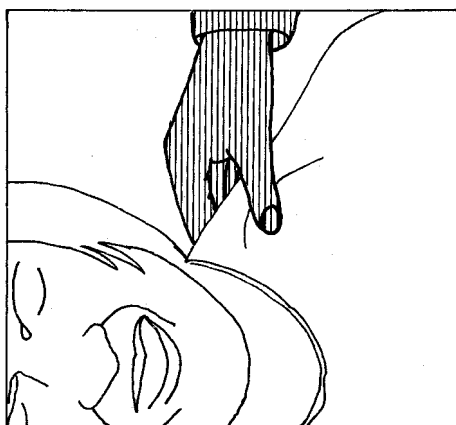
- Do primary survey (p.9):
 - ☐ gently shake and shout to see if patient will wake up.
 - ☐ check ABC's: Airway, Breathing, Circulation.
 - ☐ if possible head or neck injury, splint neck and back to prevent movement (p.243).
- Position: lay patient on his side, to help prevent choking on vomit.



Place patient in coma position.

1.2 Check level of consciousness. Assume that patient may hear, understand, and remember everything you say.

- Will patient respond to anything?
 - ☐ to voice calling his name?
 - ☐ to pain?
 - squeeze shoulder-to-neck muscle.
 - press/rub breastbone (sternum) hard with your knuckle.



Check for response to pain.

- *If patient responds*, how does he respond?
 - ☐ by the look on his face?
 - ☐ by groaning?
 - ☐ by moving in some way, such as pushing you away?
 - ☐ by talking?
 - ☐ by waking up?
 - ☐ by doing something else?

- Plan to recheck level of consciousness often. Write down and report changes, getting worse.

1.3 Check vital signs: Rectal temperature, P, R, BP.

- *If low temperature*, consider that hypothermia may be causing the problem:
 - ☐ if rectal temperature is less than 90°, now go to p.336 to decide if you should rewarm or just transport patient.
 - ☐ if rectal temperature is 90° or more, rewarm patient as you follow this plan.
- If abnormal pulse rate or rhythm, consider that this may be causing the problem.
 - ☐ if age 3 yrs. or more, now go to p.23.
- If shock (weak, fast pulse; low BP), now go to p.7.
- If diastolic BP (bottom number) is more than 115, consider that dangerously high BP may be causing the problem.
 - ☐ if adult, now go to p.30.

1.4 It may help to give OXYGEN, especially if patient has shortness of breath or blue color (cyanosis).

- Follow guidelines on p.435.

1.5 Quickly check blood sugar (glucose).

- If low blood sugar (less than 80 on Chemstrip® or less than 90 on Dextrostix®), give sugar as on p.59.
- If very high blood sugar (more than 400 on Chemstrip® or more than

250 on Dextrostix®), treat as on p.60.

- If you can NOT check blood sugar quickly AND if patient has history of diabetes or recent history of drinking a lot of alcohol, give sugar as on p.59.

1.6 If unconscious patient may have had a narcotic medicine, such as HEROIN or MORPHINE, give medicine that will help to wake him up:

Give I.M. shot of **NALOXONE** (Narcan®; 0.4 mg./ml.).

Weight	Approximate Age	Dose
14 lbs. or less	3 mo. or less	0.08 mg. (0.2 cc.)
15-24 lbs.	4-17 mo.	0.16 mg. (0.4 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	0.24 mg. (0.6 cc.)
35-49 lbs.	4-6 yrs.	0.4 mg. (1.0 cc.)
50-64 lbs.	7-8 yrs.	0.48 mg. (1.2 cc.)
65 lbs. or more	9 yrs. or more	2.0 mg. (5 cc.)

- After five minutes, if patient is still unconscious or very sleepy, repeat this dose one time.

1.7 If an adult with recent history of drinking a lot of alcohol, give **THIAMINE** to treat for severe thiamine vitamin deficiency:

Give I.M. shot of **THIAMINE**.
• **Dose: 100 mg.**

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Ask someone who knows. Ask patient, if he wakes up and can answer OK. Also ask the following specific questions:

- [1]** What exactly happened?
- Did patient fall?
 - Did patient make any movements, such as:
 - ☐ muscle twitching?
 - ☐ jerking (seizure, convulsion)?
 - Did he urinate or have a bowel movement?
 - Did he injure himself?
- [2]** *If patient wakes up:*
- Ask him how he feels.
 - ☐ is he sleepy or confused?
 - ☐ does he have a headache?
 - Ask him to tell you when he feels normal.

[3] Does patient have history of other problems of the nervous system, now or in past:

- Feeling faint (light-headed) or fainting (passing out)?
- Feeling dizzy?
- Coordination or balance problems?
- Trouble talking?
- Numbness, tingling, weakness, or trouble moving an arm, leg, or other part of the body?
- Seizures (convulsions)?
- Stroke or other brain/nerve problems?
- "Shakes" or DTs from alcohol?
- Mental health problems such as depression, suicide attempt, or medicine/drug overdose? *If so,*
 - ☐ have someone look for a container of medicine nearby.
 - ☐ if your assessment is overdose, now go to p.11.

[4] Recent history:

- Head or neck injury within past 4 weeks? *If so, now go to p.260.*
Consider that the assessment may be "serious head injury."
- Drinking alcohol or taking illegal ("street") drugs? *If so:*
 - ☐ what?
 - ☐ when?
 - ☐ how much?
 - ☐ maybe he forgot a head injury.
- When did patient eat last?

2.2 Past Health History

[1] Illnesses:

- Heart trouble?
- High blood pressure?
- Diabetes?

[2] Allergies?

[3] Medicines:

- What medicines is patient taking now?

2.3 Other History

[1] Does patient have any other problems or complaints, such as:

- Fever or chills?
- Headache?
- Stiff/sore neck?

3. Exam

3.1 General appearance.

3.2 Vital signs: Recheck P, R, BP.

3.3 *If possible injury*, as you examine, look and feel for injuries (especially head and neck).

3.4 *If infant*, feel head for bulging soft spot (fontanelle).

3.5 Eyes:

- Appearance.
- Pupils: size, reaction to light.

3.6 Ears:

- Eardrums (look for blood, especially).

3.7 Mouth:

- Tongue.

3.8 Neck:

- Pulses, carotid:
 - ☐ feel one at a time. Compare one side of body to other.
 - ☐ listen with stethoscope for abnormal swishing sound of

blood flowing through artery (bruit).

- If no head/neck injury, check for signs of meningitis: gently push head forward, chin to chest. Look for:
 - ☐ stiff neck, or
 - ☐ knees that bend or pull up.

3.9 Heart:

- Heart sounds.

3.10 Chest:

- Breath sounds on both sides.

3.11 Abdomen:

- Bowel sounds.
- Feel for tenderness (muscles that harden when you press).

3.12 Nervous system:

- Movement and feeling. Check for the same movement and reaction on both sides of body. Poke with a safety pin:
 - ☐ palms of hands.
 - ☐ soles of feet.
- Reflexes:
 - ☐ knee jerk.
 - ☐ bottom of foot (Babinski, p.409):
Do all toes move down (normal) when you run something hard along bottom of foot, from heel toward toes?

3.13 Lab tests:

- Hemoglobin.
- If urine is available, do urine dipstick for:
 - ☐ protein (albumin).
 - ☐ glucose (sugar).
 - ☐ ketones.

4. Assessment

4.1 Your assessment should be:

Unconscious patient.

4.2 Make a more specific assessment. Use chart 4.2.

4.3 Include in your assessment that the problem is one of the following:

- **Fainting** (Plan: p.284).
- **Sleepiness after a seizure** (Plan: p.270).
- **Meningitis** (Plan: p.284).
- **Serious head or neck injury** (Plan: p.260).
- **Other or unknown cause of unconsciousness** (Plan 5.1).

Chart 4.2

Unconscious Patient: Some Assessments and Typical Findings

Assessment	History	Exam
FAINTING [passing out, blacking out, temporary loss of consciousness, syncope] (Plan: p.284)	Often happened just after emotional upset or pain. Faint feeling usually began when standing, maybe sitting. Happened fairly quickly, but often patient had a little warning, maybe time to lie down. Fell or sank, limp, to ground and breathed quietly. <i>If it lasted 15 sec. or more</i> , may have briefly had some muscle twitching on both sides of body. Woke up quickly (usually within 3-4 seconds).	May look pale at first, sweaty. Exam is normal soon after waking up, including normal temperature and nervous system exam.
SLEEPINESS AFTER A SEIZURE [convulsion, fit] (Plan: p.270)	Had a seizure (p.272). Woke up, but probably was sleepy, had headache.	Does NOT usually look pale or sweaty (as with fainting). For a few minutes after waking up, patient is often very sleepy, confused, or has abnormal finding on exam of nervous system. Other findings depend on cause of seizure.
MENINGITIS [infection of meninges, the membranes that cover brain and spinal cord] (Plan: p.284)	Was very sick before becoming unconscious: • Severe headache. • Loss of appetite. • Vomiting. • <i>If an infant</i> : Acted fussy; cried when picked up or moved.	Fever. Stiff neck. Knees may bend or pull up when neck is bent forward. <i>If an infant</i> : • May NOT have fever or stiff neck. • May have high pitched or weak cry. • Bulging soft spot.

5. Plan**5.1 Plan: Other or Unknown Cause of Unconsciousness**

If a more specific plan for the problem is not covered above, follow this plan. This plan includes if patient is unconscious from alcohol or other drugs, stroke, or other brain problem.

[1] If history of diabetes AND if you can NOT check blood sugar, consider

that the assessment may be low or very high blood sugar. Now go to p.58.

[2] Report NOW to your referral doctor.

• Have someone stay with patient while you report.

If you can NOT reach a doctor,

• Follow this plan until you can.
 • Have someone arrange for transport to hospital, unless patient wakes up and is doing OK.

[3] If patient wakes up, do the following:

- Recheck vital signs: T, P, R, BP.
- Consider other assessments:
 - ☐ assessments in chart 4.2.
 - ☐ acute drug abuse problem (alcohol or other drugs, p.261).
- *If assessment is still "other or unknown cause of unconsciousness,"* now go to p.285. Follow the same plan as for "stroke or other brain problem."

[4] Special care for unconscious patient should include guidelines in chart 5.1.

Chart 5.1

SPECIAL CARE FOR THE UNCONSCIOUS PATIENT

1. Position: Keep patient on his side, to help prevent choking on vomit.
2. Stay nearby. Observe breathing and color.
3. Keep patient warm (normal temperature).
4. Keep patient's eyes closed to prevent injury from drying.
5. Reassure others.
6. Recheck vital signs at least every 30-60 minutes: P, R, BP.
7. Recheck level of consciousness often.
 - Will patient respond to anything?
 - ☐ to voice calling his name?
 - ☐ to pain? (Squeeze shoulder-to-neck muscle; press/rub breastbone hard with your knuckle.)
 - Write down and report changes, getting worse.
8. Give nothing by mouth until patient is awake and can swallow without choking.
 - If patient needs fluid to prevent dehydration:
 - ☐ start an I.V. (p.427). Use 5% DEXTROSE AND 0.9% SODIUM CHLORIDE, if available.
 - ☐ run I.V. at "maintenance rate" (p.434). Avoid running it faster than maintenance rate, to prevent swelling of brain.
9. Turn patient at least every two hours to help prevent bed sores (pressure sores).
10. Keep patient clean and dry. Check to see if he urinated or had bowel movement.

OTHER NERVOUS SYSTEM PROBLEMS

Begin here if patient has chief complaint related to the nervous system, OTHER than obvious injury, alcohol/drug problem, headache, seizure, unconscious patient, or mental health problem. This section includes the following problems:

- Feeling faint or fainting.
- Feeling dizzy.
- Balance problems.
- Trouble talking.
- Numbness, tingling, weakness, or trouble moving an arm, leg, or other part of the body.
- Sudden abnormal behavior, confusion, or other mental changes.
- Possible meningitis.
- Possible stroke or other brain problem.

1. Emergency Care

1.1 First check ABC's: Airway, Breathing, Circulation.

1.2 If possible head or neck injury, splint neck and back to prevent movement (p.243).

1.3 Note level of consciousness.

- For example, is patient:
 - ☐ wide awake?
 - ☐ sleepy or confused?
 - ☐ unconscious?
- If very sleepy (very hard to wake up) OR if unconscious:
 - ☐ lay patient on his side to help prevent choking on vomit.
 - ☐ now go to p.275.

1.4 Position:

- If feeling faint, patient should lie down.
- If feeling dizzy, patient should rest in position that feels best.

1.5 Check vital signs: T, P, R, BP.

- If low temperature, consider that hypothermia may be causing the problem (p.335).

- If abnormal pulse rate or rhythm, consider that this may be causing the problem.

☐ if age 3 yrs. or more, now go to p.23.

- If shock (weak, fast pulse; low BP), now go to p.7.
- If diastolic BP (bottom number) is more than 115, consider that dangerously high BP may be causing the problem.

☐ if adult, now go to p.30.

1.6 If sleepy, confused, or other mental changes:

- It may help to give OXYGEN, especially if patient has shortness of breath or blue color (cyanosis).
 - ☐ follow guidelines on p.435.
- Assume that patient may hear, understand, and remember everything you say.
- Recheck level of consciousness often. Write down and report if getting worse.

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Does patient have history of other problems of the nervous system, now or in past:

- Feeling faint (light-headed) or fainting (passing out, blacking out)?
If patient fainted, how did he feel when he woke up?
 - ☐ was he sleepy or confused?
 - ☐ did he have a headache?
 - ☐ how long was it before he felt normal?
- Feeling dizzy? If so, what exactly does the dizziness feel like? Ask patient to describe the feeling in his own words.
- Coordination or balance problems, such as falling down or staggering when walking? If staggering, what exactly is it like? For example, does patient always stagger to one side?
- Trouble talking?

- Numbness, tingling, weakness, or trouble moving an arm, leg, or other part of the body? *If so:*

- ☐ is it on one side or on both sides of the body?
- ☐ is there a recent history of:
 - injury near the problem area?
 - doing something that put pressure near the area, such as falling asleep with arm on back of chair?

- ☐ if leg or foot, does patient also have pain in low back?

- Seizures (convulsions)?
- Stroke or other brain/nerve problems?
- “Shakes” or DTs from alcohol?
- Mental health problems, such as:
 - ☐ feeling very nervous (anxious)?
 - ☐ having lots of worries, stress?
 - ☐ feeling angry?
 - ☐ feeling sad?

[2] Recent history:

- Head or neck injury within past 4 weeks? *If so, now go to p.260.* Consider that the assessment may be “serious head injury.”
- Spine or back injury?
- Drinking alcohol or taking illegal (“street”) drugs? *If so:*
 - ☐ what?
 - ☐ when?
 - ☐ what amount (how much)?
 - ☐ maybe he forgot a head injury.
- Working with chemicals, or breathing in fumes?

2.2 Past Health History

[1] Illnesses:

- Heart trouble?
- High blood pressure?
- Diabetes?

[2] Medicines:

- What medicines is patient taking now?

[3] If a woman, ask: “Could you be pregnant?”

2.3 Other History

[1] Does patient have other complaints, such as:

- Feeling sick, weak, tired?
- Fever or chills?
- Weight loss?
- Headache?

- Change in vision?
- Ear problems?
- Neck pain, or stiff neck?
- Nausea or vomiting? *If vomiting, what does the vomit look like?*
- Trouble swallowing?
- Abdominal pain?
- Symptoms of diabetes, such as being very thirsty or urinating more than normal?

[2] Is there a family history of the same problem?

[3] Diet:

- Does patient eat a well-balanced diet, with foods from the four food groups every day (p.444)?
- What has patient been eating recently? Does diet include:
 - ☐ home canned or fermented food in the past few days (could cause botulism)?
 - ☐ shellfish, such as clams or mussels in the past day (could cause shellfish poisoning)?

[4] Are there problems with job or school, home, family?

3. Exam

Do a screening physical exam (p.368). Also check the following:

3.1 Vital signs:

- If feeling faint or dizzy, check P & BP with patient lying down, then sitting up.

3.2 *If possible injury*, as you examine, look and feel for injuries (especially head and neck).

3.3 Neck:

- Pulses, carotid:
 - ☐ listen with stethoscope for abnormal swishing sound of blood flowing through artery (bruit).
- If no head/neck injury, check for signs of meningitis. Have patient bend neck forward to touch chin to chest. If needed, gently push head forward. Look for:
 - ☐ stiff neck, or
 - ☐ knees that bend or pull up.

3.4 Nervous system. Do a complete exam:

- Mental status (mind). *If patient is confused or if he says or does*

something strange, write down what is abnormal and do a more complete mental status exam (p.410), including the following:

- ☐ orientation. Ask patient:
 - “What is your name?”
 - “Where are you now?”
 - “What is the date?”
- ☐ memory: Can patient remember things that happened in the past *and recently*?
- Nerves of the head:
 - ☐ face muscles: raise eyebrows; show teeth.
 - ☐ feeling on face, with light touch.
 - ☐ eyes:
 - vision.
 - pupils: size, reaction to light.
 - eye muscles: ask patient to look at your finger as you slowly move it in a large circle.
 - ☐ hearing.
 - ☐ smell (test if a problem).
 - ☐ mouth and throat:
 - sticking tongue out
 - uvula hanging, saying “Ah.”
 - gag.

• Muscle movement & strength:

- ☐ head (turning).
- ☐ shoulders (shrug).
- ☐ arms (elbow movement).
- ☐ hands (grasp).
- ☐ legs (knee movement).
- ☐ feet (ankle movement).
- ☐ others (if problems).

• Feeling (sensation) with light touch:

- ☐ arms.
- ☐ hands.
- ☐ body.
- ☐ legs.
- ☐ feet.
- ☐ others (if problems).

• Tendon reflexes:

- ☐ biceps, in front of elbow.
- ☐ knee jerk.

• Coordination:

- ☐ walking.
- ☐ balance (standing on one foot).
- ☐ finger to nose test.

3.5 Lab tests:

- Blood sugar (glucose).
 - ☐ if low blood sugar (less than 80 on Chemstrip® or less than 90 on Dextrostix®), give sugar as on p.59.
 - ☐ if very high blood sugar (more than 400 on Chemstrip® or more

than 250 on Dextrostix®), treat as on p.60.

- Hemoglobin.
- Urine dipstick for:
 - ☐ protein.
 - ☐ glucose (sugar).
 - ☐ ketones.

4. Assessment

4.1 Your assessment should be:

Nervous system problem.

4.2 Make a more specific assessment. Use chart 4.2.

4.3 Include in your assessment that the problem is one of the following:

- **Botulism** (Plan 5.1).
- **Dizziness** (Plan 5.2).
- **Feeling faint or fainting** (Plan 5.3).
- **Serious head injury** (Plan: p.260).
- **Hyperventilation** (Plan: p.208).

- **Meningitis** (Plan 5.4).
- **Shellfish poisoning** (Plan 5.5).
- **Stroke or other brain problem** (Plan 5.6).
- **Mental illness** (Plan: p.215).
- **Other or unknown nervous system problem** (Plan 5.7).

5. Plan

5.1 Plan: Botulism

[1] Report NOW to your referral doctor.

- Have someone stay with patient while you report.

If you can NOT reach a doctor,

- Follow this plan until you can.
- Have someone arrange for transport to hospital as soon as possible. Patient needs special medicine and care at hospital.

[2] Special care should include the following:

- Stay nearby. Observe breathing and color.
- *If trouble breathing or blue color (cyanosis), be sure to:*
 - ☐ keep airway clear. Use a bulb syringe or suction machine, if needed.
 - ☐ give OXYGEN, if available (p.435).
 - ☐ be ready to give rescue breathing. Patient's breathing muscles may be too weak.
- Recheck vital signs every hour, more often as needed.
- Diet: Nothing by mouth. A botulism patient may choke and get food into the lungs.
- It may help to lay patient on his side, to prevent choking.

Chart 4.2

Nervous System Problems: Some Assessments and Typical Findings

Assessment	History	Exam
BOTULISM [food poisoning caused by the bacteria <i>Clostridium botulinum</i>] (Plan 5.1)	May have the following: <ul style="list-style-type: none"> • Nausea and vomiting. • Abdominal pain. • Double or blurry vision. • Very dry mouth or throat. • Trouble swallowing, talking, or breathing. • Weak muscles. Ate home canned or fermented food in past 8 days (such as stink heads, stink eggs, beaver tail). <ul style="list-style-type: none"> • Usually symptoms start within 12 hrs to 3 days. Others who ate same food may be sick with same problem.	Temperature usually normal. <i>Nervous system:</i> <ul style="list-style-type: none"> • General appearance: May look scared, short of breath • Eyes: Pupils may be large and react poorly to light; eye muscles may not move OK in all directions. • May have muscle weakness, trouble talking or using muscles.
DIZZINESS [vertigo] (Plan 5.2)	Patient usually has a feeling of movement, maybe like things are moving in one direction, around or under him. <ul style="list-style-type: none"> • May start when moving head quickly. • If severe, may cause staggering, falling. Often has nausea & vomiting. May also have: <ul style="list-style-type: none"> • Ear problems: <ul style="list-style-type: none"> — history of recurrent ear infections. — hearing loss. — ringing/buzzing in ears. • Symptoms of headcold or flu. 	<i>Nervous system.</i> May have: <ul style="list-style-type: none"> • Hearing loss. • Eyes that "jerk" to one side (nystagmus). Rest of exam is normal.

Chart 4.2

Nervous System Problems: Some Assessments and Typical Findings (Continued)

Assessment	History	Exam
FEELING FAINT [feeling light-headed, about to fall; giddiness] OR FAINTING [passing out, blacking out, temporary loss of consciousness, syncope] (Plan 5.3)	Often happened just after emotional upset or pain. Feeling usually began when standing, maybe sitting. <i>If fainting:</i> <ul style="list-style-type: none"> • Happened fairly quickly, but often patient had a little warning, maybe time to lie down. • Fell or sank, limp, to ground and breathed quietly. • If it lasted 15 sec. or more, may have briefly had some muscle twitching on both sides of body. • Woke up quickly (usually after a few seconds). 	May look pale at first, sweaty. Exam is normal soon after waking up, including normal temperature and nervous system exam.
HYPERVENTILATION [caused by breathing too fast] (Plan: p.208)	Patient often feels that he can not breathe in enough air. May feel faint, light-headed. May have a strange tingling feeling in the fingers, toes, or lips. Next, may get muscle twitches or cramps in hands and feet.	<i>General appearance:</i> <ul style="list-style-type: none"> • Patient looks scared. • Good color. • Breathing looks OK or looks deep and fast. Rest of exam is normal.
MENINGITIS [infection of meninges, the membranes that cover brain and spinal cord] (Plan 5.4)	Fever. Severe headache. Loss of appetite. Vomiting. <i>If an infant:</i> May act fussy; cries when picked up or moved.	Looks very sick; may be sleepy, confused. Fever. Stiff neck; or knees may bend or pull up when neck is bent forward. <i>If an infant:</i> <ul style="list-style-type: none"> • May NOT have fever or stiff neck. • May have high pitched or weak cry. • NOT interested in things going on around him. • Bulging soft spot.
SHELLFISH POISONING [PSP, Paralytic Shellfish Poisoning; food poisoning caused by eating certain salt water shellfish] (Plan 5.5)	May have the following: <ul style="list-style-type: none"> • Numbness and tingling: <ul style="list-style-type: none"> — first in lips, tongue; maybe face, neck. — later in hands, feet. • Nausea and vomiting. • Headache. • Dry mouth or throat. • Weak or "stiff" muscles. • Trouble talking, breathing, swallowing, or using muscles; choking feeling. Ate shellfish (such as clams, mussels) or juice from them in past 24 hours (usually symptoms start within 10 min. to a few hrs) Others who ate same food may be sick with same problem.	Temperature: Normal or low. <i>Nervous system:</i> <ul style="list-style-type: none"> • General appearance: Usually awake and alert; may look scared, short of breath • May have muscle weakness, trouble talking or using muscles.

Chart 4.2

Nervous System Problems: Some Assessments and Typical Findings (Continued)

Assessment	History	Exam
STROKE [problems with blood supply to the brain] OR OTHER BRAIN PROBLEM [brain tumor; other brain disease] (Plan 5.6)	<i>If stroke:</i> <ul style="list-style-type: none"> • Usually adult, over age 40. • Often history of high BP. • Symptoms may start quickly, over minutes to hours: severe headache, nausea, vomiting, unconsciousness, or other nervous system complaint. • May get better within 24 hours if a "pre-stroke" (TIA, Transient Ischemic Attack). <i>If other brain problem, symptoms often start slowly.</i>	May have danger sign of high pressure inside skull: pulse gets slower & BP gets higher. <i>Neck:</i> May hear swishing sound (bruit) over carotid pulse. <i>Nervous system exam is abnormal.</i> Common findings include: <ul style="list-style-type: none"> • Mental status: <ul style="list-style-type: none"> — general appearance: May be sleepy, confused, or unconscious. — problems with orientation, memory, judgement, intelligence. • Weakness, paralysis, or numbness of an area on one side of body.
MENTAL ILLNESS (Plan: p.215)	May have many complaints. May have history of saying or doing something that is strange, abnormal.	<i>Nervous system is abnormal only in certain parts of the mental status exam:</i> <ul style="list-style-type: none"> • General appearance: May look nervous or sad; may cry easily. • Mood may be abnormal. • Thinking: May have strange ideas that are not in touch with what is real. May hear voices. • Orientation, memory, and intelligence are usually OK It may be hard to get along with this patient. Rest of exam is normal.

[3] Public health work.

Have someone help you do the following:

- Get a sample of the suspected food. It should go with patient to hospital for botulism testing.
- Be sure no one else eats any of the suspected food.
- Find all the people who ate any of the suspected food.
 - ☐ check them for possible botulism.
- Remind people about botulism prevention (Chart 5.1).

[4] Transport patient to hospital as soon as possible.

- *If transport is delayed* and patient needs fluid to prevent dehydration:
 - ☐ start an I.V. (p.427).
 - ☐ run I.V. at "maintenance rate" (p.434).

Chart 5.1

Patient Education
BOTULISM: PREVENTION

Prepare and store food properly:

1. Keep food clean. Food should NOT come in contact with soil or with contents that have spilled from fish intestines.
2. Do NOT ferment any food in air-tight containers, such as plastic bags or jars.
3. Keep food cool; refrigerate.
4. Do NOT store meat in plastic bags unless it is kept frozen.
5. If possible, cook home fermented food well before eating. Cooking will destroy the botulism poison.
6. Ask your sanitarian if you have questions.

5.2 Plan: Dizziness

[1] Report to your referral doctor. Special tests may be needed.

- Report NOW if:
 - ☐ patient has severe vomiting.
 - ☐ patient looks sick.
 - ☐ blood pressure gets lower when patient sits up.
 - ☐ nervous system exam is abnormal in any way.
- While you are waiting to report, follow this plan.

[2] Consider other assessments that you can treat:

- There are many causes of dizziness that include problems with the inner ear.
 - ☐ *if patient has ear infection* (otitis media), it may be causing the dizziness. Treat as on p.91, but

be sure to report this serious infection to your referral doctor.

- ☐ *if motion sickness* (seasickness), doctor may suggest prevention with medicine before the motion starts.
- Dizziness, may mean something different to each person. If the feeling is NOT as described in chart 4.2, but is more of a light-headed or faint feeling, it may be caused by:
 - ☐ neck injury (p.242).
 - ☐ the same things that cause fainting (Plan 5.3).

[3] Patient education should include the following:

- Reassure patient.
- Give information in chart 5.2.

Chart 5.2

Patient Education DIZZINESS ATTACK

1. Activity:
 - Rest, in the position that feels best.
 - Avoid doing things that bring on the dizzy feeling, such as moving your head quickly.
 - Try to return to your normal activities as soon as possible.
2. *If you have vomiting:*
 - It may help at first to rest and take no liquid for 2-4 hours.
 - Begin drinking small amounts (p.75).
 - Slowly return to your usual diet.
3. NO SMOKING!
4. Avoid eating or drinking too much.
5. Diet: It may help to avoid salt:
 - Avoid eating salty foods (p.445).
 - Do NOT add salt to foods.

[4] Recheck as follows:

- Recheck in one day, sooner if patient is feeling worse.
- Examine:
 - ☐ vital signs.
 - ☐ *if patient is NOT getting better*, repeat the exam you did on first visit.

- *If patient vomits all liquid*, your referral doctor may suggest that you give an adult medicine for vomiting (p.74).

5.3 Plan: Feeling Faint or Fainting

[1] Report to your referral doctor.

- Report NOW unless patient seems completely normal.

[2] Consider other assessments

that you can treat. This problem may be more than a head cold causing light-headedness or more than a "simple faint." In addition to assessments in chart 4.2, consider the following:

- Abnormal heart rate or rhythm (p.23).
- Anemia (low hemoglobin, p.25).
- Severe blood loss or other fluid loss by history.
 - ☐ treat the problem. See index under "bleeding" or other specific problem.
 - ☐ this includes vomit that looks like "coffee grounds"; bowel movement that looks black, like tar (p.80).
- Pregnancy (usually the faint feeling is made better by lying on left side).
- Medicine side effect. *If patient has been taking medicine regularly*, the doctor may suggest that you change the dose or stop the medicine. Medicines likely to cause faintness or dizziness include medicines for seizures, high blood pressure, or mental health problems.
- Passing out with seizure (epilepsy, p.272).
- Passing out with migraine headache (a common cause of fainting in teenagers; p.269).

[3] Patient education should include:

- Reassure patient.
- Give information in chart 5.3.

[4] Recheck as follows:

- Recheck in one day, sooner if patient is feeling worse.
- Examine:
 - ☐ vital signs.
 - ☐ *if patient is NOT getting better*, repeat the exam you did on first visit. Your referral doctor may suggest other exam, tests.

Chart 5.3

Patient Education FEELING FAINT OR FAINTING

1. The general cause of fainting is usually low blood pressure for a short time. The brain does not get enough blood.
2. Avoid doing things that bring on the faint feeling. The following should help to prevent fainting by keeping the blood pressure normal:
 - When lying down, sit up for a while before standing.
 - Stand up slowly.
 - It may help to stand for a while before walking.
 - Do not stand for long periods of time without moving.
3. Try to return to your normal activities as soon as possible.
 - For now, avoid activities in which sudden fainting may be a danger to your life, such as:
 - ☐ driving.
 - ☐ climbing in high places.
 - ☐ using dangerous machinery.
4. Stay healthy in general:
 - Exercise regularly.
 - ☐ plan to walk or get other exercise for 20 minutes, at least 3 times a week.
 - do NOT get short of breath.
 - ☐ consult your doctor before starting. You may need special instructions.
 - Diet:
 - ☐ eat meals at regular times. Try not to skip meals.
 - ☐ eat a well-balanced diet with foods from the four food groups every day.
5. See your CHA/P if you faint or have other problems.

5.4 Plan: Meningitis

[1] Report NOW to your referral doctor.

- If you can NOT reach a doctor,**
- Follow this plan until you can.

- Have someone arrange for transport to hospital as soon as possible. Patient needs I.V. antibiotics and care at hospital.

[2] Medicine. Start antibiotics as soon as possible.

- *Antibiotics are listed in order of recommended treatment.* Give ONE of the following choices (for doses, see chart 5.4):
 - ☐ I.M. shot of CEFTRIAXONE.
 - ☐ I.V. or I.M. injection of AMPICILLIN AND oral or I.M. CHLORAMPHENICOL.
 - ☐ I.M. shot of PROCAINE PENICILLIN AND oral or I.M. CHLORAMPHENICOL.
 - ☐ I.M. shot of PROCAINE PENICILLIN AND oral AMOXICILLIN OR AMPICILLIN.
- *If I.M. dose is more than 3 cc. (or in infant, more than 1 cc.), it is best to divide the dose into two shots, one on each side of body.*
- If patient is allergic to PENICILLIN, ask what happened when he had allergic reaction.
 - ☐ *if he had hives* do NOT give AMPICILLIN, AMOXICILLIN, or PENICILLIN.
 - ☐ *if he just had rash*, give the antibiotic anyway, but have EPINEPHRINE ready to inject, in case he has severe allergic reaction (p.8).

[3] Special care should include the following:

- If high fever, give ACETAMINOPHEN (p.416).
- Have someone stay with patient at all times.
- If patient is awake and can swallow without choking, give clear liquids to prevent dehydration (p.75).
- If patient can NOT swallow without choking, your plan should include the following:
 - ☐ diet: Nothing by mouth.

- ☐ *if transport is delayed* and patient needs fluid to prevent dehydration:
 - start an I.V. (p.427). Use 5% DEXTROSE AND 0.9% SODIUM CHLORIDE, if available.
 - run I.V. at a slow rate, about *half* the "maintenance rate" (p.434). Avoid running it faster than this, to prevent swelling of brain.
- *If patient has a seizure:*
 - ☐ protect from injury, as for any seizure:
 - move objects out of the way.
 - do NOT try to stop movements.
 - ☐ if possible, lay patient on his side to help prevent choking.
 - ☐ do NOT put things in mouth.
 - ☐ give him PHENOBARBITAL as on p.271.

[4] Transport patient to hospital as soon as possible.

5.5 Plan: Shellfish Poisoning

[1] Report NOW to your referral doctor. Begin the following treatment while someone else contacts the doctor.

[2] Treat for poisoning as on p.12, "Poisoning by Mouth: Any Drug, Medicine, and Most Other Poisons." For most patients you should:

- Make patient vomit up any shellfish left in his stomach. Give IPECAC syrup.
- After patient stops vomiting, give ACTIVATED CHARCOAL mixed with water or SORBITOL.
- Give a strong laxative.

[3] Special care should include the following:

- Stay nearby. Observe breathing and color.
- Do NOT give alcohol or other drugs, except those used for treating poisoning.
- *If trouble breathing or blue color* (cyanosis), be sure to:
 - ☐ keep airway clear. Use a bulb syringe or suction machine, if needed.

- ☐ give OXYGEN, if available (p.435).
- ☐ be ready to give rescue breathing. Patient's breathing muscles may be too weak.
- Recheck vital signs every hour, more often as needed.

[4] Public health work. Have someone help you do the following:

- Get a sample of the suspected food. It should go with patient to hospital for testing.
- Be sure no one else eats any more shellfish they collected.
- Find all the people who ate any of the suspected food.
 - ☐ check them for possible shellfish poisoning.
- Remind people about prevention (chart 5.5).

[5] Transport patient to hospital as soon as possible, unless your referral doctor tells you otherwise.

- This problem gets better within 24 hours, but patient may need to be on a breathing machine.

5.6 Plan: Stroke or Other Brain Problem

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor, follow this plan until you can.

[2] Consider other assessments that you can treat. The nervous system problem may be related to one of the following:

- Abnormal heart rate or rhythm (p.23).
- Anemia (low hemoglobin, p.25).
- Severe blood loss or other fluid loss by history.
 - ☐ treat the problem. See index under "bleeding" or other specific problem.
 - ☐ this includes vomit that looks like "coffee grounds"; bowel movement that looks black, like tar (p.80).
- Migraine headache (p.269).
- Medicine/drug related problem:
 - ☐ poisoning or drug overdose (p.11).

Chart 5.4

**ANTIBIOTICS FOR TREATING
MENINGITIS**

(For choices, see plan 5.4)

I.M. shot of CEFTRIAXONE

(Rocephin®; 250 mg./ml.)

- See "Mixing Powdered Medicines for Injection," p.421.
- Read instructions carefully on how to mix the medicine.
- **Give shot every 12 hours:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	250 mg. (1 cc.)
15-19 lbs.	4-8 mo.	375 mg. (1½ cc.)
20-27 lbs.	9-23 mo.	500 mg. (2 cc.)
28-31 lbs.	2 yrs.	625 mg. (2½ cc.)
32-39 lbs.	3-4 yrs.	750 mg. (3 cc.)
40-99 lbs.	5-12 yrs.	1,000 mg. (4 cc.)
100 lbs. or more	13 yrs. or more	2,000 mg. (8 cc.)

I.V. or I.M. injection of AMPICILLIN

- See "Mixing Powdered Medicines for Injection," p.421.
- Read instructions carefully on how to mix the AMPICILLIN. It is mixed differently for I.V. or I.M. use.
 - ☐ do NOT save AMPICILLIN once it is mixed. It is only good for about one hour.
- The number of mg. in each cc. depends on:
 - ☐ if you mixed the drug for I.V. or I.M. use.
 - ☐ size of the bottle of medicine you have.
- **Give injection every 6 hours:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 months	250 mg.
15-24 lbs.	4-17 months	500 mg.
25-34 lbs.	18 mo. thru 3 yrs.	750 mg.
35-49 lbs.	4-6 years	1,000 mg.
50-69 lbs.	7-9 yrs.	1,500 mg.
70 lbs. or more	10 yrs. or more	2,000 mg.

I.M. shot of PROCAINE**PENICILLIN (Wycillin®):**

- **Give shot every 12 hours:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	600,000 Units
15-24 lbs.	4-17 mo.	900,000 Units
25-34 lbs.	18 mo. thru 3 yrs.	1,800,000 Units
35-49 lbs.	4-6 yrs.	2,400,000 Units
50-89 lbs.	7-11 yrs.	3,600,000 Units
90 lbs. or more	12 yrs. or more	4,800,000 Units

**Oral or I.M. shot of
CHLORAMPHENICOL**

- **Every 6 hours:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	100 mg.
15-24 lbs.	4-17 mo.	180 mg.
25-34 lbs.	18 mo. thru 3 yrs.	280 mg.
35-49 lbs.	4-6 yrs.	400 mg.
50 lbs. or more	7 yrs. or more	500 mg.

Oral AMOXICILLIN

(250 mg./5 ml. suspension or 250 mg. capsules)

- **Give by mouth, every 8 hours:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	225 mg. (4½ cc.)
15-24 lbs.	4-17 mo.	375 mg. (7½ cc.)
25-34 lbs.	18 mo. thru 3 yrs.	525 mg. (10½ cc.)
35-49 lbs.	4-6 yrs.	750 mg. (15 cc.)
50 lbs. or more	7 yrs. or more	750 mg. (3 capsules)

Oral AMPICILLIN

(250 mg./5 ml. suspension or 250 mg. capsules)

- **Give by mouth, every 6 hours:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	250 mg. (5 cc.)
15-24 lbs.	4-17 mo.	500 mg. (10 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	750 mg. (15 cc.)
35-49 lbs.	4-6 yrs.	1,000 mg. (20 cc.)
50-69 lbs.	7-9 yrs.	1,200 mg. (5 capsules)
70 lbs. or more	10 yrs. or more	1,500 mg. (6 capsules)

Chart 5.5

Patient Education SHELLFISH POISONING: PREVENTION

1. You may get this poisoning from eating any of the following or juice from them:
 - Salt water shellfish (bivalve mollusks): all kinds of clams, cockles, muscles, oysters.
 - Sea snails (They eat shellfish).
 2. It is OK to eat:
 - Crabs or shrimp (crustaceans).
 - Commercially made products.
 3. How do shellfish get this poison?
 - Shellfish eat plankton (small plants and animals living in water).
 - ☐ a "red tide" may be seen if there is a lot of red plankton in the water.
 - Certain red plankton contain a poison to man. When shellfish eat this plankton, they store the poison.
 4. If shellfish have the poison, there is NO way to destroy it (NOT by cleaning, cooking, canning, freezing, pickling, or drying).
 5. There is no simple test to tell if a beach is safe.
 - There can be a wide range of the poison on different parts of the same beach.
 - Some shellfish store the poison for many years.
 6. This problem happens now and then in all Alaskan salt water areas.
 - The State of Alaska Epidemiology Office recommends that you avoid eating salt water shellfish or sea snails from any beach in Alaska, at any time of the year.
 - Ask your sanitarian for more information.
- ☐ acute drug abuse problem (alcohol or other drugs; p.261).
 - ☐ medicine side effect (p.414).
 - Nerve problem in lower back:
 - ☐ if patient only has pain or numbness going down leg AND low back pain, follow the plan on p.248, "Low Back Pain with Muscle Strain."
 - Sleepiness or confusion after a seizure (p.272).
 - If you have found another problem, such as an ear infection, pneumonia, or other illness:
 - ☐ also treat that problem as in this Manual. That problem may be helping to cause the nervous system problem.
- [3] Transport** patient to hospital if he:
- Is very sleepy or confused.
 - Can NOT swallow without choking.
 - Has mental changes AND seems to be getting worse.
- [4] If you do NOT transport** or if transport is delayed, have someone stay with patient and help you with the following plan:
- Reassure patient.
 - NO SMOKING!
 - If patient is awake and can swallow without choking:
 - ☐ encourage him to drink nourishing liquids, such as soups, milk, juices.
 - ☐ if he is doing OK, advance diet slowly. Give him food that is easy to chew and swallow.
 - If patient can NOT swallow without choking, your plan should include the following:
 - ☐ diet: Nothing by mouth.
 - ☐ if patient needs fluid to prevent dehydration:
 - start an I.V. (p.427). Use 5% DEXTROSE AND 0.9% SODIUM CHLORIDE, if available.
 - run I.V. at "maintenance rate" (p.434). Avoid running it faster than maintenance rate, to prevent swelling of brain.
 - If patient has numbness of an area, tell patient to protect the area:
 - ☐ do NOT wear tight clothing or shoes.

- ☐ avoid injury, including from heat or cold.
- If patient can not move, turn him at least every two hours to help prevent bed sores (pressure sores).
- Keep patient clean and dry. Check often if he can not control his bladder or bowels.

[5] Recheck as follows:

- Recheck every 6 hours, sooner if patient is getting worse.
- Examine:
 - ☐ vital signs.
 - ☐ if patient is NOT getting better, repeat the exam you did on first visit.
- If patient is OK (normal) and your referral doctor thinks that the problem was a TIA (Transient Ischemic Attack), he will probably suggest further tests, possible carotid artery surgery, and in the meantime giving an adult two 325 mg, ASPIRIN tablets (NOT ACETAMINOPHEN) once a day.
 - ☐ this helps to prevent blood clots in brain arteries.

5.7 Plan: Other or Unknown Nervous System Problem

[1] Report to your referral doctor.

- While you are waiting to report, follow the plan for stroke or other brain problem (Plan 5.6).

MENINGITIS: FOLLOW-UP CARE

Begin here for long-term care of child less than 5 years who just had meningitis and returns to the village.

- If older child or adult, consult referral doctor for follow-up care.

1. Get Information from the Doctor

You need to know the doctor's assessment and plan, including:

1.1 Medicine: Is child supposed to take any medicine? If so, for each medicine, find out the following:

- Name.
- Dose.
- How often child should take it.
- Warnings and side effects parent should look for.
- Possible problems when taking other medicine at the same time (drug interactions).
- When should prescription be changed (increased or stopped)?

1.2 Are there any special problems or symptoms to watch for in this child?

1.3 Does child need any special appointments or tests? If so, how will these be arranged?

- Is financial aid available for travel?

2. Get History From Patient & Parent

2.1 *If on medicine:*

- Does child take medicine as directed?
- Are there side effects or problems from the medicine?

2.2 Does child have any problems, such as:

- Seizures (convulsions)?
- Muscle problems, including:
 - ☐ crossed or "wandering" eyes?
 - ☐ muscle weakness or stiffness?
- Coordination or balance problems?

2.3 Ask about development (p.189). Meningitis may cause deafness. If child can hear OK, his talk should be developing as follows:

- 6 months: Babbles "Ma-ma-ma," others.
- 1 year: Says two words.
- 1½ and 2 years: Uses two words together.
- 3 years: Uses three-word sentences. ¾ths of his words should be understandable.

3. Exam

3.1 Vital signs: T.

3.2 Height and weight:

- If age three or less, also get head circumference.
- Plot on growth chart.
- Decide if each is growing normally, especially head.

3.3 Eyes:

- Eye muscles. Look for coordination problems, such as:
 - ☐ crossed eyes, "wandering" eye.
 - ☐ light reflecting from different place on each eye.

3.4 Ears:

- Hearing. Check by whispering or making a soft sound behind child's head.

3.5 Arms and legs. Compare one side of body to other:

- Look for muscle weakness or stiffness:
 - ☐ watch how child moves or walks.
 - ☐ have child pull on a toy with each hand.
 - ☐ if *abnormal*, bend and straighten arms and legs to check for muscle stiffness.
- If first recheck visit, look for a joint infection:
 - ☐ not using an arm or leg.
 - ☐ inflammation (tender to movement, warm, red, swollen).

4. Assessment

4.1 Your assessment should include: **Meningitis: follow-up care.**

4.2 Also include in your assessment:

- "Doing well," if no problems.
- Any problems you have found.

5. Plan

5.1 Patient education should include the following:

- Reassure parent.
- Answer questions.

5.2 If on medicine, your plan should include the following:

- Discuss importance of taking medicine.
- Remind parent about warnings and possible side effects.
- If side effects, treat as recommended by your referral doctor.
- Give parent a refill, if needed.

5.3 Recheck: Make appointment for next visit. If doing well, see child at

these times after he gets out of the hospital:

- 1 week.
- 3 months.
- 6 months.
- 1 year.

5.4 Report to your referral doctor.

- If possible, send a copy of your SOAP note to the doctor. Contact him sooner if you found any problems, including if child is ill. Even if an illness seems minor, it may be serious in this child.

5.5 Other plan should include the following:

- Check to be sure that child is up to date on well-child immunizations.
- Make an education plan:
 - ☐ if age less than 3 years, refer to Infant Learning Program in your area.
 - if you are not sure who to contact, ask your PHN.
 - ☐ if age three or more, refer to school special education program.
- Order more medicines, if needed.
 - ☐ fill out the pharmacy refill request, if needed.
 - ☐ include weight when you order, so dose can be increased as child grows.
- Check to see that:
 - ☐ child's name is on list of patients to be seen on a field trip by doctor, PHN.
 - ☐ this problem is written on child's problem list.

STROKE: LONG-TERM CARE

Begin here for long-term care of patient who has had a stroke. Patients often have long-term problems, such as being partly paralyzed.

1. Get Information from the Doctor

You need to know the doctor's assessment and plan, including:

1.1 Medicines: Is patient supposed to take any medicine? If so, for each medicine, find out the following:

- Name.
- Dose.
- How often patient should take it.
- Warnings and side effects patient should look for.
- Possible problems when taking other medicine at the same time (drug interactions).

1.2 Are there any special problems or symptoms to watch for in this patient, such as:

- Bladder and bowel care?
 - ☐ can patient control urinating and having bowel movements?
 - ☐ any special equipment needed to care for patient?
- Skin care? Patients that stay in bed often get bed sores (pressure sores).
 - ☐ does patient need special pads to lay on or sit on?

1.3 Is there other special patient education, such as:

- Diet:
 - ☐ low fat (p.445), low salt (p.445), or other special diet?
 - ☐ should patient lose weight?
- Exercise:
 - ☐ what sort of regular exercise is good for this patient?
 - ☐ does patient need help with special physical therapy exercises to prevent joints from getting stiff?
- Things patient should avoid?

1.4 Does patient need any special appointments or tests? If so, how will these be arranged?

2. Get History From Patient & Family

Visit patient and family in the home, if needed. Ask how family is doing, as well as patient.

2.1 If on medicine:

- Does patient take medicine as directed?
- Are there side effects or problems from the medicine?

2.2 Does patient or family have any problems?

3. Exam

3.1 Vital signs: P, R, BP.

3.2 Skin: Look for pressure sores:

- Buttocks.
- Sides of pelvis.
- Other places that may often rest on bed or chair (such as heels, shoulder blades, elbows).

4. Assessment

4.1 Your assessment should include:

Stroke: long-term care.

4.2 Also include in your assessment:

- "Doing well," if no problems.
- Any problems you have found.

5. Plan

5.1 Patient education. Talk with patient *and* family.

- Get patient education handouts from your referral hospital or other sources.
- As needed, remind family that it is important to give patient:
 - ☐ a well-balanced diet, with foods from the four food groups every day (p.444).
 - ☐ companionship.
 - ☐ good skin care.
 - ☐ clean clothing and bedding.
 - ☐ exercise or physical therapy.
 - ☐ the chance to be useful in the home, as much as possible.
- *If patient has numbness* of an area, tell patient to protect the area:
 - ☐ do NOT wear tight clothing or shoes.
 - ☐ avoid injury, including from heat or cold.
- *If patient has balance problems*, it is important to prevent him from falling.
- *If patient can not move*, family should turn him at least every two hours to help prevent bed sores.

5.2 If on medicine, your plan should include the following:

- Discuss importance of taking medicine.
 - ☐ *if medicine is for high BP*, it is needed to help keep BP under control, in order to prevent another stroke.
- Remind patient about warnings and possible side effects.
- If side effects, treat as recommended by your referral doctor.
- Give patient a refill, if needed.

5.3 Recheck: Make appointment for next visit. If doing well, see patient every 3-4 weeks.

5.4 Report to your referral doctor:

- If possible, send a copy of your SOAP note to the doctor. Contact him sooner if you found any problems, especially high BP.
- Ask doctor about special immunizations that are needed for this patient (flu, pneumococcal).

5.5 Other plan should include the following:

- Order more medicines, if needed.
 - ☐ fill out the pharmacy refill request, if needed.
- Check to see that:
 - ☐ patient's name is on list of patients to be seen on a field trip by doctor, PHN.
 - ☐ this chronic problem is written on patient's problem list.

RESPIRATORY PROBLEMS

CHEST INJURIES

1. Begin Emergency Care

1.1 First, check ABC's: Airway, Breathing, Circulation.

- If there is any sign of breathing trouble, quickly *look at* the chest (without clothing) for injury.

- ☐ seal a sucking chest wound NOW (plan 5.1).

1.2 Control severe bleeding.

1.3 *If possible head, neck, or back injury*, splint neck and back to prevent movement (p.243).

1.4 Position: Keep patient lying down, to prevent fainting or shock.

- If short of breath, it may help patient to sit up a little bit, with a pillow behind him.

1.5 Check vital signs: P, R, BP.

- If shock (weak, fast pulse; low BP), now go to p.7.
- If serious injury, plan to have helper recheck vital signs at least every 15-30 minutes, until they have been normal for two hours.

1.6 Give OXYGEN if needed (very short of breath; blue color of lips, nails).
• Follow guidelines on p.435.

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Find out about the accident that caused the injury:

- Exactly what happened?
 - ☐ what caused the injury?
 - did he fall?
 - was he kicked or stabbed?
 - ☐ was it related to alcohol or other drugs?

- Where on the chest was patient hit?
- Did patient faint (pass out)?
- Does patient have other injuries?
- *If gunshot wound*, find out about the gun:
 - ☐ what size (caliber) was used and what kind of bullet (military, hunting, target)?
 - ☐ how close was the gun to the patient when it fired?
- *If knife wound*, find out what size and type of knife was used.

[2] How much blood does patient think he has lost?

[3] Does patient have any other complaints, such as:

- Nausea?
- Symptoms of shock: feeling weak, tired?
- Coughing up blood?
- Shortness of breath?
- Chest pain? If so:
 - ☐ where is the pain?
 - ☐ what makes it better or worse?

[4] When did patient eat last?

2.2 Past Health History

[1] Illnesses?

[2] What medicines is patient taking now?

[3] Allergies?

[4] When was last TETANUS shot?

3. Exam

3.1 Repeat vital signs: P, R, BP.

3.2 Do a body survey (p.9).

3.3 Chest. Compare one side of body to the other:

- Appearance. Look at chest (without clothing) as patient breathes:
 - ☐ does chest move the same on both sides of body?
 - ☐ note all injuries, even minor bruises and scrapes (may show where there is damage inside).
- Feel chest for tenderness:
 - ☐ start away from the painful area. Slowly work toward it.

- ☐ feel all bony areas, including each rib, all the way around the chest. Note signs of a broken rib:
 - tenderness in one spot.
 - possible feel/sound of a broken bone.

• Breath sounds:

- ☐ quieter than normal?
- ☐ different on one side of body?
- ☐ clear, or with rales (crackles) or other abnormal sounds?

• Percuss, but do not percuss right over a tender area. Is sound:

- ☐ different on one side of body?
- ☐ more "hollow" or more dull than normal?

• Examine a wound closely:

- ☐ location.
- ☐ size and shape.
 - how deep does it look?
- ☐ is it discolored or swollen?
- ☐ what type of wound is it (straight cut, puncture wound, etc.)?
- ☐ is it dirty?

3.4 Examine the object that caused a wound, if possible:

- How long is the object? If it is a knife, how long is the blade?
- How far up the object does the blood go?
- Could the object have caused a serious internal injury and only a small skin wound? Example: a very thin long blade.

3.5 Lab test:

- Hemoglobin.
 - ☐ if bleeding, hemoglobin level may be normal at first. It is important to check it NOW, to compare with level after some time has passed.

4. Assessment

4.1 Your assessment should be:

Chest injury.

4.2 Make a more specific assessment.

- First, decide if this is a serious chest injury. Use chart 4.2-A.
- *If serious chest injury*, make a more specific assessment. Use chart 4.2-B.

4.3 Include in your assessment that the problem is one of the following:

- **Serious chest injury:**
 - ☐ **sucking chest wound** (Plan 5.1).
 - ☐ **tension pneumothorax** (Plan 5.2).
 - ☐ **collapsed lung** (Plan 5.3).
 - ☐ **flail chest** (Plan 5.4).
 - ☐ **something sticking into chest (foreign body)** (Plan 5.5).
 - ☐ **other serious chest injury** (Plan 5.6).
- **Broken rib** (Plan 5.7).
- **Minor chest injury** (if patient has none of the findings of a serious chest injury; Plan 5.8).

4.4 If you are not sure of the assessment, treat patient for a possible serious chest injury (Plan 5.6).

Chart 4.2-A

SERIOUS CHEST INJURY ASSESSMENT: SOME TYPICAL FINDINGS

If patient with a chest injury has *any of the things listed below*, this is a serious chest injury.

History:

- Any stab wound, gunshot wound, or foreign body stuck into chest.
- Shortness of breath.
- Coughing up blood.
- Severe chest pain when taking a deep breath.

Exam:

- General appearance:
 - ☐ shortness of breath.
 - ☐ frothy, pink foam in mouth.
- Shock (weak, fast pulse; low BP).
- When breathing, chest moves differently on one side.
- A broken lower rib (may damage liver or spleen).
- More than one broken rib (very tender).
- Breath sounds quieter than normal or absent on one side of body.
- Dull or hollow to percussion on one side of chest.
- Deep wound.
- Other severe injury.

Chart 4.2-B

Serious Chest Injury: Some Assessments and Typical Findings

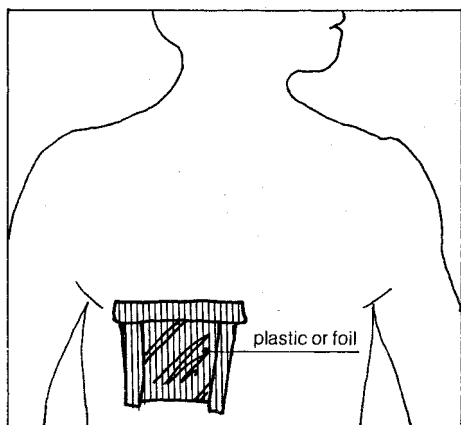
Assessment	History	Exam
SUCKING CHEST WOUND [large wound into chest cavity] (Plan 5.1)	Shortness of breath and pain on breathing. Often knife or gun wound.	Shortness of breath. Air or blood bubbling from wound.
TENSION PNEUMOTHORAX [lung leaks air, builds up pressure, pushes heart and lungs to one side] (Plan 5.2)	Shortness of breath and pain on breathing. Often history of sealed sucking wound.	Shortness of breath; blue color. Shock (weak, fast pulse; low blood pressure). <i>Neck:</i> <ul style="list-style-type: none"> • Veins may look "full". • Windpipe pushed toward good side. <i>Chest:</i> Breath sounds and percussion findings same as for collapsed lung.
COLLAPSED LUNG [simple pneumothorax] (Plan 5.3)	Shortness of breath and pain on breathing.	Shortness of breath. <i>Chest:</i> <ul style="list-style-type: none"> • Skin may feel crackly, from air in skin (subcutaneous emphysema). • Breath sounds: Quieter on one side of chest. • Percussion: More hollow than usual on quiet side of chest.
FLAIL CHEST [a few ribs are broken, each in more than one place] (Plan 5.4)	Shortness of breath and pain on breathing.	Shortness of breath. <i>Chest:</i> <ul style="list-style-type: none"> • Tender, broken ribs. • Chest may appear to move in two sections: <ul style="list-style-type: none"> — patient breathes in, "flail" part does not move out. — patient breathes out, "flail" part stays higher.

5. Plan

5.1 Plan: Sucking Chest Wound

[1] Seal a sucking chest wound NOW, with an airtight dressing.

- Petrolatum gauze (Vaseline®) is best, but plastic wrap or aluminum foil will work.
 - ☐ use your hand if nothing else is available.
- Tape the dressing well on *three sides*.
 - ☐ do NOT tape the fourth side, unless the doctor tells you to.
- When patient breathes in, the dressing will be sucked onto his chest.
 - ☐ air should not be able to enter the chest cavity.
- When patient breathes out, the side of the dressing that is not taped will let trapped air out of the chest cavity.



Tape three sides.

[2] Special care should include the following:

- Position: Have patient lie *on his injured side*.
- Watch for the problem of "tension pneumothorax" (chart 4.2-B).
- Go to plan 5.6 ("General Care for Serious Chest Injuries"). Follow parts of that plan which apply.

5.2 Plan: Tension Pneumothorax

This can happen with or without a sealed sucking chest wound.

[1] If there is an airtight dressing over a wound, do the following:

- Release the dressing NOW.
 - ☐ you should hear a rush of air from the wound, and patient will feel better.
- Next, replace the dressing, but watch patient closely for the same problem.
- Report to your referral doctor NOW.

[2] If there is NOT an airtight dressing over a wound, report to your referral doctor NOW.

- If you have experience with this problem, the doctor may tell you to stick a large I.V. catheter or a flutter valve into the chest cavity just above one rib, to let off pressure.

[3] Other plan: Go to plan 5.6 ("General Care for Serious Chest Injuries"). Follow parts of that plan which apply.

5.3 Plan: Collapsed Lung

[1] Special care should include the following:

- Watch for the problem of "tension pneumothorax" (chart 4.2-B).
- Go to plan 5.6 ("General Care for Serious Chest Injuries"). Follow parts of that plan which apply.

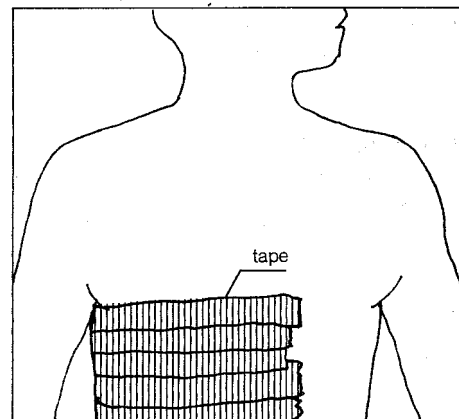
5.4 Plan: Flail Chest

This injury leaves a section of the rib cage that is not attached.

[1] Special care should include splinting the chest in some way. Try any of the following, as needed:

- Position: Have patient lie *on his injured side*.
 - ☐ it may help to prop sandbags against the chest wall.
- Have patient hold a pillow against his chest.
- It may help to tape the chest tightly with adhesive (white) tape:
 - ☐ tell patient to take a deep breath in, then breathe out, and do not breathe in again if possible until you are done.

- ☐ quickly apply 2 inch wide strips of adhesive tape from the spine to the breastbone. Overlap the strips by $\frac{1}{3}$ of their width.
- ☐ cover the "flail" part of the chest completely with tight adhesive tape.



[2] Other plan should include the following:

- Keep checking ABC's: Airway, Breathing, and Circulation.
- Go to plan 5.6 ("General Care for Serious Chest Injuries"). Follow parts of that plan which apply.

5.5 Plan: Something Sticking into Chest (foreign body)

[1] Warnings include the following:

- Leave the object in place. Pulling it out may cause more damage and bleeding.
- Do NOT clean or look into this kind of wound.

[2] Special care includes the following:

- Cut away clothing.
- If there is much chance that the object will be hit or moved, carefully trim object to smaller size.
- Put a bulky dressing around object to keep it from moving and to help control bleeding.
 - ☐ tape the foreign body and dressing in place to prevent movement (as in drawing on p.341).
- Go to plan 5.6, which follows ("General Care for Serious Chest Injuries"). Follow parts of that plan which apply.

5.6 Plan: Other Serious Chest Injury and General Care for Serious Chest Injuries

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.
- Have someone arrange for transport to hospital as soon as possible.

[2] Transport patient to hospital.

While you are waiting to transport, your plan should include the following:

- Reassure patient.
- Diet: Nothing by mouth.
- Wound care:
 - ☐ wash well (p.344), unless you have applied a special wound dressing in one of the above plans.
 - ☐ cover wound with a dry, sterile dressing.
- If the skin is broken and patient has NOT had a TETANUS booster shot in the past 10 years:

Give I.M. booster shot of **TETANUS TOXOID and DIPHTHERIA (Td)**
• **Dose: 0.5 cc. I.M.**

- Recheck vital signs (P, R, BP) at least every 15-30 minutes.
 - ☐ if shock (weak, fast pulse; low BP), treat as on p.7.
 - ☐ if vital signs are normal after 2 hours, recheck them every 4 hours, more often if patient is having problems.
- *If pain is severe*, patient is NOT in shock, and you can NOT reach a doctor, give an I.M. shot of MEPERIDINE (Demerol®) or MORPHINE (p.417).
- Patient education:
 - ☐ to prevent pneumonia, it helps to take deep breaths, cough and change position every 1-2 hours, even if this causes pain.
 - ☐ NO SMOKING until the chest injury has healed!
 - ☐ some patients find that holding a pillow against the chest gives support and helps the pain.

5.7 Plan: Possible Broken Rib

This usually is a minor injury. It hurts for a few weeks, but it does not do much damage.

[1] Decide if this is a serious or a minor injury, as follows:

- If it is one of the lowest ribs that is broken, treat patient for a serious chest injury (Plan 5.6).
 - ☐ these ribs end on the side of the chest, not far above the pelvic bone.
 - ☐ when broken, they can damage the liver or spleen.
- For most patients, treat for a minor chest injury. Go to 5.8, which follows.

5.8 Plan: Minor Chest Injury

[1] Report to your referral doctor unless he has signed for you to treat minor chest injuries without contacting him.

- While you are waiting to report, follow this plan.

[2] Patient education should include the following:

- To prevent pneumonia, tell patient:
 - ☐ it helps to take deep breaths, cough and change position every 1-2 hours while awake, even if this causes pain.
 - ☐ do not put tape, an elastic bandage, or a similar splint on the chest.
- NO SMOKING until the chest injury has healed!
- Some patients find that holding the hands or a pillow against the chest gives support and helps the pain.
- To ease pain and help healing, it may help to do the following:
 - ☐ for the first 1-2 days, apply cold packs (ice wrapped in a towel) for 20 minutes, and repeat as needed.
 - ☐ after 1-2 days, apply moist heat (a warm, wet towel) for 20 minutes, about four times a day.

[3] Other plan

- *If patient has a wound*, wash and care for it as on p.342 ("General Wound Care").
- If needed, for pain, give ACETAMINOPHEN (Tylenol®, p.416).

[4] Recheck as follows:

- Recheck patient in one day, sooner if he is having problems, such as shortness of breath.
- Examine:
 - ☐ vital signs: T, P, R, BP.
 - ☐ breath sounds.
 - ☐ recheck hemoglobin if there is any chance of internal bleeding.
- When the time is right, talk about accident prevention. *If problem is related to alcohol* or other drug abuse:
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

NOSE PROBLEMS

NOSEBLEED

Nosebleed is usually a minor problem that can be stopped easily. If it bleeds a lot, shock or anemia can result.

If Nose Injury

Consider that this patient has possible head/neck/spine injury:

- Stop severe bleeding only.
- As soon as possible, go to p.259 ("Head Injury").

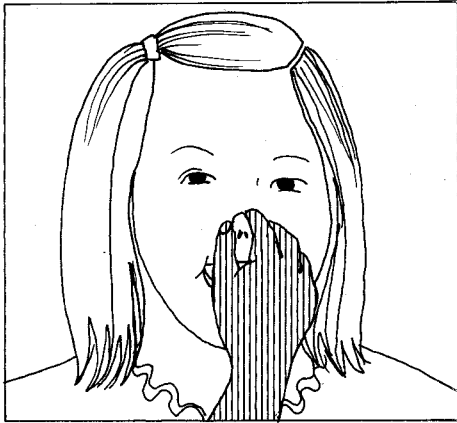
1. Begin Emergency Care

Do the following while you get history and examine:

1.1 First, check ABC's: Airway, Breathing, Circulation.

1.2 Use direct pressure to stop bleeding:

- Have patient sit up with his head slightly forward so that the blood will drip out. He should not swallow the blood.
- Tell patient to breathe through his mouth.
- Pinch the nostrils as in the next drawing.
- Hold pressure on nostrils for 10 minutes, and then slowly release.
- Repeat the pressure if needed.



2. History

2.1 Get general history of present illness (inside cover). Also ask the following specific questions:

- What made it bleed?
 - ☐ picking?
 - ☐ accident?
 - ☐ started by itself?
- Which side of the nose is bleeding?
 - ☐ usually only one side bleeds.
- How much blood does patient think he has lost?

2.2 Past Health History:

- Illnesses?
- What medicines is patient taking now, including blood thinners and aspirin?

3. Exam

3.1 General appearance.

3.2 Vital signs: P, BP.

- If shock (weak, fast pulse; low BP):

- ☐ continue to try to stop severe bleeding.
- ☐ also treat shock as on p.7.

3.3 Nose:

- Appearance:
 - ☐ note any obvious injury to the nose.
- Observe how much blood patient is losing.

3.4 Lab tests:

- If possible head injury, check to see if there is spinal fluid mixed with the blood:
 - ☐ place a drop on a piece of filter paper or paper towel.
 - ☐ if a clear circle appears around the blood, it is spinal fluid. If not, it is just blood (as shown on p.260).
 - ☐ if there is spinal fluid, after you control severe bleeding, treat patient for serious head injury (p.260).
- Hemoglobin, if you think patient lost a lot of blood.
 - ☐ hemoglobin level may be normal at first. It is important to check it NOW, to compare with level after some time has passed.

4. If You Can NOT Control Bleeding

Do the following:

- 4.1** Coat a cotton ball with PETROLEUM JELLY (Vaseline®) or a similar lubricant.
- 4.2** Place the cotton ball into the nose.
- 4.3** Pinch the nostrils for 10 minutes.
- 4.4** If this stops the bleeding, now go to step 5.
- 4.5** If this does NOT stop the bleeding, report to your referral doctor while someone continues to pinch the nostrils.

If you can NOT reach a doctor

- Follow this plan until you can.
- Have someone arrange for transport to hospital as soon as possible.
- 4.6** If doctor has signed for you to do this when you can NOT reach him, use a special nosebleed kit for severe (posterior) nosebleed.
- Follow directions for inserting the catheter, filling the balloon, and packing gauze into the nose.

4.7 Transport patient to hospital as soon as possible. While you are waiting to transport:

- Stay with patient.
- Reassure patient.
- If severe bleeding continues, start an I.V. and plan to treat for shock.
- Check P & BP with patient lying down, then sitting up.
 - ☐ treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.
- Recheck vital signs (P, BP) every 15 minutes.
- Be prepared for patient to vomit if he swallowed a lot of blood.

5. If Bleeding Stops

Do the following:

5.1 Report to your referral doctor.

- Report NOW if patient is taking medicine that may cause bleeding, such as blood thinners or ASPIRIN.
- While you are waiting to report, follow this plan.

5.2 Observe patient for 30 minutes after bleeding stops.

5.3 If you inserted a cotton ball, plan to leave it in place for 24 hours.

5.4 Patient education. Tell patient to do the following:

- While nose is healing (for three days or so):
 - ☐ breathe through the mouth.
 - ☐ sneeze with the mouth open.
 - ☐ do not blow the nose.
- Do not pick the nose.
- Apply a small amount of PETROLEUM JELLY (Vaseline®) to the lining of the nose at least twice a day.
 - ☐ this will keep mucous membranes from drying out, cracking, and bleeding.
- Add moisture to the air at home with a vaporizer or steamer.
- 5.5** Recheck in one day.
- Recheck vital signs: T, P, R, BP.
- If you inserted a cotton ball, carefully remove it.
- Recheck hemoglobin if patient lost a lot of blood.

NOSE INJURY/BROKEN NOSE

1. First, Give Emergency Care

1.1 *If severe bleeding*, treat the same as for other patients with nosebleed. Now go to p.294.

1.2 For other patients, first get history and examine patient for head injury. Go to p.259.

- Also check to see if patient can breathe through each side of his nose.

2. Next, Treat Specific Assessments

2.1 *If broken nose* with the nose bones pushed out of place badly but NOT much swelling:

- Apply a cold pack (ice, placed in plastic bag and wrapped in a towel).
- It is easier to fix the nose before it swells a lot or heals the wrong way.
- Your referral doctor may suggest that you try once or twice to put the bones into the right position.

2.2 Inside the nose, if the middle part (septum) is very swollen and blue colored, it is probably filled with blood (septal hematoma).

The blood needs to be let out soon or that part of the nose will die.

- Apply a cold pack (ice, placed in plastic bag and wrapped in a towel).
- If transport is delayed, your referral doctor may suggest that you do the following:
 - ☐ remove (aspirate) the blood with a large needle and syringe.
 - ☐ pack gauze tightly into nose to apply pressure.

2.3 For other injuries:

- Care for wounds as on p.339.
- If patient has a bruised area it will help to do the following, to reduce swelling and pain:
 - ☐ for the first 1-2 days, apply cold packs (ice, placed in plastic bag

and wrapped in a towel). Apply for 20 minutes. Repeat as needed.

- ☐ after 1-2 days, apply moist heat (a warm, wet towel). Apply for 20 minutes, about four times a day.

WHEN SOMETHING IS STUCK INSIDE THE NOSE

Begin here if patient has something stuck inside the nose, such as a toy, paper, or food.

1. History

1.1 When did it happen, and what is the object?

1.2 Has blood or pus been draining from nose?

2. Exam

2.1 Carefully look inside nose:

- If a child, have parent help to hold, in same way as if you were examining throat (p.383).
- Use the large tip on your otoscope. Tell patient: "Hold your breath, while I look in each nostril."
- Check to see:
 - ☐ where exactly is the object?
 - ☐ does it fill the inside of the nose or can you see some space around it?
 - ☐ do you think you can get it out easily?
- Note foul smell.

3. Assessment

3.1 Your assessment should be:

Object (foreign body) stuck inside nose.

4. Plan

The safest way to get out the object is for patient to sneeze or blow his nose while holding the other side of the nose closed.

4.1 Report to your referral doctor.

- Special skills or instruments may be needed in order to remove it.
- Do NOT try to take it out until you talk with a doctor.

4.2 If you try to take it out, do the following:

- Be careful:
 - ☐ do NOT injure nose.
 - ☐ do NOT push object in further.
- Tell patient, "Do NOT move your head or touch my hands."
 - ☐ do NOT try to take it out if patient is struggling, trying to move head.
 - ☐ if a child, have parent hold well.
- *If very soft or small object*: grab it with blunt tweezers or forceps.
- *If a hard/smooth object*, such as a stone:
 - ☐ slip something small and smooth, with a bend at the tip of it, *behind the object*. For example: one curved end of a paperclip that has had the tip bent with pliers. Do NOT insert sharp ends of paperclip into nose!
 - ☐ gently try to pull out object.

RESPIRATORY ILLNESS

Begin here if patient is ill now with chief complaint of the respiratory system:

- Cold (head, sinus, chest).
- Stuffy/runny nose.
- Sore throat.
- Hoarse voice.
- Cough, including coughing up blood.

Do NOT begin here for the following:

- Chest injury: Go to p. 291.
- Chest pain is chief complaint: Go to p.19.
- Asthma attack: Begin plan on p.304 as you get history and examine.

1. Emergency Care

1.1 If Severe Breathing Problem

[1] First check ABC's: Airway, Breathing, Circulation.

[2] Decide if patient has severe breathing problem (respiratory distress). Look at patient and use common sense. Appearance may include the following:

- General appearance may be:
 - ☐ looks very sick.
 - ☐ very short of breath, breathing fast.
 - ☐ working hard to breathe, trying to get air, gasping for breath.
 - ☐ must sit up to breathe.
 - ☐ making sound with breathing:
 - high-pitched sound when breathing in (stridor). *If so, and if a child less than age 8, do NOT examine throat with tongue blade! That may make child stop breathing!*
 - grunting sound when breathing out, especially in infant.
 - ☐ very nervous, anxious, afraid.
 - ☐ blue color of lips, fingernails (cyanosis).
- Nose: Flaring of nostrils with breathing in.
- Chest: Retractions (skin between ribs pulls in when patient breathes in).

[3] *If severe breathing problem, now go to p.39, "Shortness of Breath."*

1.2 If Coughing Up a Lot of Blood

[1] Look for place that may be bleeding: nose, mouth, throat.

- If possible, use direct pressure to stop bleeding.

[2] If patient knows lung is bleeding from one side, have him lay on that

side, with head slightly down, to try to prevent breathing blood into the good lung.

[3] Give OXYGEN, if needed: very short of breath; blue color of lips, fingernails.

- See p.435, "Giving OXYGEN."

[4] Check vital signs: P, R, BP.

- If shock (weak, fast pulse; low BP), now go to p.7.

[5] Get history and examine quickly.

[6] Report to your referral doctor.

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Does patient have other problems of the respiratory system:

- Stuffy nose? Runny nose?
- Sinus pain (behind forehead or cheek bones)?
- Sore throat? If so, what makes it better or worse:
 - ☐ coughing?
 - ☐ swallowing (solids, liquids)?
- Cough? If so, coughing up anything? *If so:*
 - ☐ how much is coughed up (tablespoon a day, cup a day)?
 - ☐ what does it look like (clear mucus, cloudy, yellow or pink color)?
 - ☐ if coughing up blood: how much (few streaks in mucus, more)?
- Shortness of breath? If so, when?
 - ☐ when exercising?
 - ☐ when lying down?

2.2 Past Health History

[1] Illnesses:

- Pneumonia, bronchitis, or lung disease?
- Ask patient: "Have you ever had tuberculosis (TB)?" *If patient says he has NOT had TB, ask:*
 - ☐ "have you had a positive skin test (arm swelled or turned red where the test was put on)?"
 - ☐ "when was your last skin test?"

- ☐ "have you ever taken any medicines for TB, such as INH? If so, for how long?"

- Heart trouble, such as rheumatic fever?

[2] Allergies?

[3] Medicines: What medicines is patient taking now?

2.3 Other History

[1] Does patient have any other complaints?

- Feeling sick, weak, tired?
 - Fever or chills?
 - Sweating a lot? If so, when?
 - If a baby: Fussy?
 - Headache?
 - Ear problems, such as:
 - ☐ earache? If young child: pulling or rubbing ears?
 - ☐ draining ear?
 - ☐ feeling that ears are "full," plugged up?
 - Chest or abdominal pain? *If so,*
 - ☐ where exactly is the pain?
 - ☐ does it stay in one place or move?
 - ☐ what does it feel like?
 - ☐ is it there all the time or does it come and go?
 - ☐ how severe is it?
 - ☐ what makes it better or worse?
 - taking a deep breath?
 - coughing?
 - other?
 - Loss of appetite? Not eating/drinking much?
 - Nausea or vomiting? If vomiting, does coughing make it start?
 - Diarrhea?
 - Muscle aches and pains?
- [2]** Is anyone else sick at home? With the same problem?
- [3]** Does patient smoke? If so:
- How many packs per day?
 - For how many years?

3. Exam

3.1 General appearance.

3.2 Vital signs: T, P, R, BP.

3.3 Head:

- *If sinus pain, check for tenderness:* Press on the sinuses for about 10 seconds (p.374).

3.4 Ears:

- Look at both eardrums.

3.5 Nose:

- Appearance.
- Look inside, if:
 - ☐ patient complains of problem inside nose.
 - ☐ child has foul-smelling runny nose (may be foreign body, p.296).

3.6 Throat, including:

- Back of throat.
- Tonsils.

3.7 Neck:

- Feel for swollen lymph nodes. If felt, note location, size, tenderness, and if movable.

3.8 Chest:

- Appearance. Look for retractions (skin between ribs pulls in when patient breathes in).
- Breath sounds:
 - ☐ quieter than normal?
 - ☐ different on one side of body?
 - ☐ clear, or with
 - rales (crackles)?
 - rhonchi (snoring sounds, change with cough)?
 - wheezes?
- If abnormal, percuss (p.387): Is sound:
 - ☐ different on one side of body?
 - ☐ more "hollow" or more dull than normal?

3.9 If abdominal pain, check abdomen:

- Bowel sounds.
- Feel for tenderness/lumps.

3.10 If history of heart problems, also check:

- Heart. Listen with stethoscope to:
 - ☐ heart rhythm. If NOT regular:
 - describe it.
 - count heart rate (apical rate).
 - ☐ heart sounds.
- Lower legs. Check for pitting edema: Press thumb firmly over shin bone for 1-2 seconds (p.397).

3.11 Lab tests:

- If coughing up sputum, look at it.
- If sore throat, swab the throat for a strep test or culture. Use a long, sterile Q-tip® (cotton tipped

applicator) and do the following:

- ☐ swab both tonsil areas.
- ☐ swab back wall of throat. Lift the uvula and swab as high up as possible.
- ☐ follow other instructions for strep testing in your region.
 - if test is positive for strep, patient needs antibiotic treatment for strep throat (Plan 5.3).
- Do TB skin test (p.311) if:
 - ☐ negative in past, and
 - ☐ cough for two weeks or more.

4. Assessment

4.1 Your assessment should be:

Respiratory illness.

4.2 Make a more specific assessment. Use chart 4.2.

4.3 Include in your assessment that the problem is one of the following:

- **Common cold** (Plan 5.1).
- **Sinus infection** (Plan 5.2).
- **Strep throat** (Plan 5.3).
- **Abscess of tonsil area** (Plan 5.4).
- **Croup** (Plan 5.5).
- **Epiglottitis** (Plan 5.6).
- **Bronchitis** (Plan 5.7).
- **Illness with wheezing:**
 - ☐ **bronchiolitis** (Plan 5.8).
 - ☐ **asthma attack** (Plan 5.9).
- **Pneumonia** (Plan 5.10).
- **Flu** (Plan 5.11).
- **Other or unknown respiratory illness** (Plan 5.12).

5. Plan

5.1 Plan: Common Cold

[1] Patient education should include the following:

- A cold is an infection caused by a virus. It is NOT caused by being out in the cold air or by forgetting to wear a hat.
- A cold is spread from one person to another through contact with mucus.

- There is no "cure" for a cold:
 - ☐ the body must fight the cold virus.
 - ☐ **a cold is NOT treated with antibiotics.** (Antibiotics treat bacterial infections. Giving unneeded antibiotics for a viral infection may cause problems.)
- A cold *can* lead to other problems. Example: ear infection, which is a bacterial infection and is treated with antibiotics.
- Prevention:
 - ☐ follow general steps to stay well (p.442).
 - ☐ prevent spread of respiratory infections (chart 5.13).
 - ☐ a cold can NOT be prevented by taking high doses of vitamin C.

[2] Other plan may include additional patient education and medicine. Go to "4.13 Plan: General, for Most Respiratory Infections."

[3] Recheck only if needed. Tell patient to return to clinic in 2-3 days if NOT getting better, sooner if feeling worse, including:

- High fever or fever that lasts more than 3 days.
- Ear or chest pain.
- Coughing up more sputum.

5.2 Plan: Sinus Infection

[1] Report to your referral doctor. **If you can NOT reach a doctor,** follow this plan until you can.

[2] Patient Education should include the following:

- A sinus infection is usually caused by a virus, but it may be caused by a bacteria, so an antibiotic is given.
- Activity: Little or none. Rest in bed until feeling better.
- For pain: warm, wet packs may help. Lay a warm, wet washcloth on the tender area for 10-15 minutes. Repeat as needed.

Chart 4.2

Respiratory Illness: Some Assessments and Typical Findings

Assessment	History	Exam
COMMON COLD [cold, headcold, upper respiratory infection, URI] (Plan 5.1)	Stuffy or runny nose. Ears may feel plugged. Mild sore throat: dry, scratchy; throat may hurt more with coughing. Mild cough. Little/no sputum. May have hoarse voice. May have headache.	Does NOT look very sick. Low fever or NO fever. Nose: Stuffy/runny. Sinus: Some tenderness with pressing; gets better after a few seconds. Throat: In back may have tiny clear bumps of tissue, mucus. Chest: Normal for patient — or — rhonchi, go away with cough.
SINUS INFECTION (Plan 5.2)	Same as URI, plus: Sinus pain. May include toothache-like pain; headache behind eyes. If a child: Runny nose or cough for more than 2 weeks; swollen eye lids; bad breath	May look sick. Fever. Sinus: Very tender with pressing; gets worse after a few seconds. Nose: Stuffy/runny; mucus may be cloudy, yellow or green.
STREP THROAT [strep pharyngitis, tonsillitis] (Plan 5.3)	Sore throat: started fairly quickly; hurts to swallow. Feels sick. May have headache. Usually NOT runny nose, but may have, if less than 3 yrs. If a child: may have abdominal pain.	Should have 3 of following: <ul style="list-style-type: none"> • Looks sick. • Fever of 101° or higher. • Throat: Red. • Tonsils: Swollen; white patches. • Neck: Enlarged, tender lymph nodes below angle of jaw. • Skin: May have rash of scarlet fever (p.320). OR: Positive strep test.
ABSCCESS OF TONSIL AREA (Plan 5.4)	Same as strep throat. Very sore throat; hurts to swallow or open mouth.	Looks sick. Fever. Painful to open mouth. Throat: Red; swelling: more on one side, may touch uvula. Neck: swollen, tender lymph nodes at angle of jaw.
CROUP (Plan 5.5)	Age: Usually less than 3 yrs. Usually other children in village sick with same thing. Started with a headcold. Shortness of breath. "Seal bark" cough.	General appearance: Short of breath; high pitched sound when breathing in; if severe: restless, blue color. "Seal bark" cough. Voice: Hoarse. Chest: May have retractions; breath sounds: fairly quiet.
EPIGLOTTITIS (Plan 5.6)	Age: Usually 3-7 yrs. Started fairly quickly: Shortness of breath; sore throat, hurts to swallow; drooling.	General appearance: Very sick; short of breath; high pitched sound when breathing in; prefers to sit; drooling; will not swallow; if severe: restless, blue color. Fever. Voice: Usually NOT hoarse. Chest: If severe: retractions; breath sounds: fairly quiet.

Chart 4.2

Respiratory Illness: Some Assessments and Typical Findings (Continued)

Assessment	History	Exam
BRONCHITIS [chest cold] (Plan 5.7)	Cough, maybe with cloudy, yellow sputum. May have symptoms of headcold. History often includes lung disease or smoking.	May have low fever. Breath sounds, change with cough: Rhonchi; may have a few wheezes.
ILLNESS WITH WHEEZING: BRONCHIOLITIS (Plan 5.8)	Age: Less than 2 yrs. Shortness of breath; wheezing when breathing out. May have symptoms of headcold.	<i>General appearance:</i> Short of breath, but usually does NOT look very sick. May have fever. May have otitis media also. <i>Chest:</i> May have retractions; breath sounds: noisy, wheezes when breathing out.
ILLNESS WITH WHEEZING: ASTHMA ATTACK (Plan 5.9)	Age: 4 yrs. or more. Shortness of breath; wheezing when breathing out. Cough. Often patient first has a headcold. Past health history: Repeated respiratory illnesses with wheezing; allergies.	Short of breath. <i>Chest:</i> <ul style="list-style-type: none"> • May have retractions. • Breath sounds: Quieter than normal, wheezes when breathing out; breathing out time is longer than normal. • Percussion: May be more "hollow" than normal.
PNEUMONIA (Plan 5.10)	Often started fairly quickly. Cough, with cloudy, yellow, or "rusty" colored sputum. Chest pain: with cough, with deep breath. Shortness of breath.	<i>General appearance:</i> Looks sick; if infant: grunting when breathing out. <i>Vital signs:</i> Fever; fast pulse; fast respirations. <i>Chest:</i> May have retractions; breath sounds abnormal: different on one side of body (quieter, or louder, or like listening over windpipe); rales (crackles).
FLU (Plan 5.11)	Usually others in village sick with same thing. Feeling sick, weak, tired. Fever or chills. Cough, usually dry. Muscle aches. May have other symptoms of common cold.	May look sick. Fever. Findings may be same as common cold. Rest of exam is normal.

[3] Medicine should include the following:

- If less than 6 yrs., consult doctor before treating.
- Give an antibiotic. *Antibiotics are listed in order of recommended treatment.* Give one of the following antibiotics:

Give **AMOXICILLIN**
(250 mg./5 ml. suspension or 250 mg. capsules).
• **Three times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	75 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	125 mg. (2½ cc.)
25-34 lbs.	18 mo. thru 3 yrs.	175 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	250 mg. (5 cc.)
50 lbs. or more	7 yrs. or more	500 mg. (2 capsules)

OR:

Give **AMPICILLIN**
(250 mg./5 ml. suspension or 250 mg. capsules).
• **Four times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	100 mg. (2 cc.)
15-24 lbs.	4-17 mo.	175 mg. (3½ cc.)
25-49 lbs.	18 mo. thru 6 yrs.	250 mg. (5 cc.)
50 lbs. or more	7 yrs. or more	500 mg. (2 capsules)

OR,
If allergic to PENICILLIN:

Give **ERYTHROMYCIN**
(200 mg./5 ml. suspension or 250 mg. tablets)
• **Four times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	60 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80 mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

- Give a decongestant by mouth:

Give **PSEUDOEPHEDRINE**
(Sudafed®;
30 mg./5 ml. syrup or 60 mg. tablets).
• **3-4 times a day for a few days:**

Weight	Approximate Age	Dose
Less than 22 lbs.	Less than 1 yr.	Consult doctor.
22-31 lbs.	1-2 yrs.	15 mg. 2.5 cc.
32-89 lbs.	3-11 yrs.	30 mg. (5 cc. or ½ tablet)
90 lbs. or more	12 yrs. or more	60 mg. (1 tablet)

- The doctor may also advise you to give a decongestant by nose, such as:

PHENYLEPHRINE 0.25% nose spray.

- **Dose**, age 12 yrs. or more: Spray 2 times up each nostril, sniffing the spray upward.
- Patient may **repeat every 3 hours as needed, for 24-48 hours.**

[4] Other plan may include additional patient education and medicine. Go to "5.13 Plan: General, for Most Respiratory Infections."

[5] Recheck as follows:

- Recheck at these times:
 - ☐ in 2-3 days if patient is NOT feeling better, sooner if worse.
 - ☐ in 10 days, before the antibiotic is finished.
- If patient is getting better, continue the antibiotic for 1 week after patient feels OK and thinks infection is gone. This is done to try to kill all of the bacteria causing the infection.

5.3 Plan: Strep Throat

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- While you are waiting to report, follow this plan.

[2] Medicine should include one of the following antibiotics:

Give I.M. shot of **BENZATHINE PENICILLIN** (Bicillin LA®).
• It lasts 3-4 weeks. **Give shot once:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	Consult doctor.
15-24 lbs.	4-17 mo.	300,000 Units
25-34 lbs.	18 mo. thru 3 yrs.	600,000 Units
35-49 lbs.	4-6 yrs.	900,000 Units
50 lbs. or more	7 yrs. or more	1,200,000 Units

OR,

If patient will NOT let you give him an injection:

Give **PENICILLIN V**
(250 mg./5 ml. suspension or
250 mg. tablets).

- **Three times a day for 10 full days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	50 mg. (1 cc.)
15-24 lbs.	4-17 mo.	75 mg. (1½ cc.)
25-34 lbs.	18 mo. thru 3 yrs.	125 mg. (2½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (4 cc.)
50 lbs. or more	7 yrs. or more	250 mg. (1 tablet)

OR,

If allergic to PENICILLIN:

Give **ERYTHROMYCIN**
(200 mg./5 ml. suspension or
250 mg. tablets)

- **Four times a day for 10 full days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	60 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80 mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

[3] Patient education should include the following:

- Strep bacteria cause this infection. It is treated with an antibiotic to prevent rheumatic fever, which can damage the heart.
- *If taking an antibiotic by mouth*, It is important to take it for 10 full days, to make sure that all of the bacteria are killed.

[4] Other plan may include additional patient education and medicine. Go to "5.13 Plan: General, for Most Respiratory Infections."

[5] Recheck only if needed. Tell patient to return to clinic in 2-3 days if NOT getting better, sooner if feeling worse.

5.4 Plan: Abscess of Tonsil Area

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor, follow this plan until you can.

[2] Medicine should include the following:

- Give an antibiotic:

Weight	Approximate Age	Dose
Less than 50 lbs.	Less than 7 yrs.	Consult doctor.
50 lbs. or more	7 yrs. or more	See the following

Give one of the following antibiotics:

1. I.M. shot of **PROCAINE PENICILLIN** (Wycillin®).
 - Give **1,200,000 units every 12 hours.**
2. If allergic to PENICILLIN, give **ERYTHROMYCIN** (250 mg. tablets).
 - **Dose: 500 mg. (2 tablets) four times a day for 10 days.**

- *If severe sore throat* not relieved by ASPIRIN, ACETAMINOPHEN, or salt water gargle, and you can

NOT reach a doctor, if needed give adult:

- ☐ oral ACETAMINOPHEN with CODEINE.
- ☐ or I.M. shot of MEPERIDINE (Demerol®) or MORPHINE (p.417).

[3] Decide if transport is needed. Abscess may need to be cut open and drained. If you can NOT reach a doctor, arrange for transport to the hospital *if patient looks very sick and has:*

- Severe pain.
- Drooling.
- Shortness of breath.

[4] Patient Education should include the following:

- Activity: Little or none. Rest in bed until feeling better.

[5] Other plan may include additional patient education and medicine. Go to "5.13 Plan: General, for Most Respiratory Infections."

[6] Recheck as follows:

- Recheck at these times:
 - ☐ every 12 hours until OK.
 - ☐ before patient stops taking the antibiotic.
- Examine:
 - ☐ vital signs: T, P, R.
 - ☐ throat.
- *If patient is getting I.M. PENICILLIN shots*, 24 hours after temperature is back to normal, switch to oral PENICILLIN, as follows:

Give an adult **PENICILLIN V**
(250 mg. tablets).

- **Dose: 500 mg. (two tablets) four times a day for a total of 10 days of antibiotic.**

- Write this problem on patient's problem list: "Abscess of Tonsil Area."
- Send referral doctor a copy of your clinic record, as a reminder. Patient will probably need tonsillectomy surgery.

5.5 Plan: Croup

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor, follow this plan until you can.

[2] Decide if transport is needed. If you can NOT reach a doctor, arrange for transport to the hospital if one of the following is true:

- Child looks very sick and has a fever.
- You think child may have epiglottitis.

[3] Special care should include the following:

- Give OXYGEN (p.435), if needed:
 - ☐ very short of breath.
 - ☐ sleepy, confused.
 - ☐ blue color of lips, fingernails.
- Disturb as little as possible, or child's breathing may get worse.
 - ☐ let child rest and breathe:
 - in position that feels best to him.
 - in a quiet place.
 - ☐ have a parent stay with child to reassure him. Remind the parent: NO SMOKING!
- Add lots of moisture to the air:
 - ☐ set up a "croup tent." Place a blanket over the crib, and leave a small opening. Aim cool vaporizer or humidifier toward the opening.
 - ☐ or, take child into bathroom where shower has been running.
- Give liquid, if possible.
 - ☐ encourage child to drink lots of liquids.
 - ☐ report to your referral doctor if:
 - child will not drink.
 - child is very sick with shortness of breath and might choke if he drinks.

[4] Patient education should include the following:

- Croup is an infection caused by a virus.
- Croup is NOT treated with antibiotics. (Antibiotics treat bacterial infections. Giving unneeded antibiotics for a viral infection may cause problems.)

- The child *can* get worse, so it is important to:

- ☐ watch the child closely.
- ☐ follow this treatment plan.

[5] Recheck as follows:

- Recheck at these times:
 - ☐ every 12 hours, sooner if getting worse instead of better.
 - ☐ if getting better, recheck once a day until OK.
- *If child is getting worse*, and you can NOT reach the doctor, arrange for transport to the hospital if child has one of the following:
 - ☐ acts sleepy, confused, or very restless.
 - ☐ blue color of lips, fingernails.
 - ☐ retractions (skin between ribs pulls in when child breathes in).
 - ☐ high pitched sound when breathing in (stridor) at rest.

5.6 Plan: Epiglottitis

[1] Report NOW to your referral doctor.

- Have someone stay with patient while you report.

If you can NOT reach a doctor,

- Follow this plan until you can.
- Have someone arrange for transport to hospital.

[2] Medicine should include an antibiotic by injection to treat this infection.

- Treat with the same antibiotics used for treating meningitis (p.285).

[3] Special care should be the same as for a patient with croup (plan 5.5).

[4] Transport patient to hospital as soon as possible. While you are waiting, do the following:

- Stay nearby.
- Observe breathing and color. Be ready to give rescue breathing.
- Reassure the parents.
- Recheck vital signs every hour, more often as needed.

5.7 Plan: Bronchitis

[1] If patient looks very sick, go to "5.10 Plan: Pneumonia." Follow that plan.

[2] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- While you are waiting to report, follow this plan.

[3] Medicine may include the following:

- Give patient an antibiotic if one of the following is true:
 - ☐ history of chronic lung disease.
 - ☐ coughing up a lot of green, yellow, or brown sputum.
 - ☐ dry cough for over a week is getting worse.
 - ☐ patient looks sick.
 - ☐ patient has fever.
 - ☐ breath sounds: rales (crackles) heard.
- *If giving antibiotics*, medicines are listed in order of recommended treatment. Give one of the following:

Give **AMOXICILLIN**

(250 mg./5 ml. suspension or 250 mg. capsules).

- **Three times a day for 7 days:**

Weight	Approximate Age	Dose
Less than 35 lbs.	Less than 4 yrs.	Consult doctor.
35-49 lbs.	4-6 yrs.	250 mg. (5 cc.)
50 lbs. or more	7 yrs. or more	500 mg. (2 capsules)

OR:

Give **AMPICILLIN**

(250 mg./5 ml. suspension or 250 mg. capsules).

- **Four times a day for 7 days:**

Weight	Approximate Age	Dose
Less than 35 lbs.	Less than 4 yrs.	Consult doctor.
35-49 lbs.	4-6 yrs.	250 mg. (5 cc.)
50 lbs. or more	7 yrs. or more	500 mg. (2 capsules)

OR:

If allergic to PENICILLIN:

Give **TETRACYCLINE** (250 mg. capsules or tablets).

- Tetracycline will stain teeth as they develop. Do NOT give to:
 - ☐ pregnant woman.
 - ☐ child less than age 8.
- **Dose: 500 mg. (2 capsules or tablets) four times a day for 7 days.**

OR:

Give **TRIMETHOPRIM/SULFAMETHOXAZOLE** (Bactrim®, Septra®; 40/200 mg./5 ml. suspension or 80/400mg. tablets).

- If allergic to **SULFA**, do NOT give.
- **Two times a day for 7-10 days:**

Weight	Approximate Age	Dose
Less than 35 lbs.	Less than 4 yrs.	Consult doctor.
35-49 lbs.	4-6 yrs.	80/400 mg. (10 cc.)
50-89 lbs.	7-11 yrs.	80/400 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	160/800 mg. (2 tablets)

- If patient has medicine for wheezing, give patient's own medicine, as needed:
 - ☐ inhalant medicine for wheezing, as directed. Examples: METAPROTERENOL, ALBUTEROL, ISOPROTERENOL.
 - ☐ and, oral medicine for wheezing, as directed. Examples: AMINOPHYLLINE, THEOPHYLLINE (Quibron-SR®, Theo-Dur®).

[4] Patient Education should include: Teach patient to do postural drainage with clapping, to help cough up sputum (p.314).

[5] Other plan may include additional patient education and medicine. Go to "5.13 Plan: General, for Most Respiratory Infections." Especially include patient education on:

- Drinking lots of liquid.
- Adding moisture to the air.
- **NO SMOKING!**

[6] Recheck as follows:

- Recheck at these times:
 - ☐ in 2-3 days if NOT getting better, sooner if feeling worse.
 - ☐ in one week.
- Examine:
 - ☐ vital signs: T, P, R.
 - ☐ chest.

5.8 Plan: Illness With Wheezing: Bronchiolitis

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Patient Education should include the following:

- Teach patient to do postural drainage with clapping to help cough up sputum (p.314).
- Bronchiolitis is an infection caused by a virus. It usually only happens once. However, a few children will get wheezing with each respiratory infection.
- Bronchiolitis is NOT treated with antibiotics. (Antibiotics treat bacterial infections. Giving unneeded antibiotics for a viral infection may cause problems.)
- The child *may* get worse, so it is important to:
 - ☐ watch child closely.
 - ☐ follow this treatment plan.

[3] Other plan may include additional patient education and medicine. Go to "5.13 Plan: General, for Most Respiratory Infections." Especially include patient education on:

- Drinking lots of liquid.
- Adding moisture to the air.
- **NO SMOKING** near the child!

[4] Recheck as follows:

- Recheck in 12 hours, sooner if child is very sick or getting worse.

• Examine:

- ☐ vital signs: T, P, R.
- ☐ chest.
- If child is getting worse, your referral doctor may decide to:
 - ☐ give an antibiotic as in "5.10 Plan: Pneumonia."
 - ☐ transport to hospital.
- If child is getting better, recheck once a day until OK.

5.9 Plan: Illness With Wheezing: Asthma attack

[1] First, be sure you have examined patient's chest: breath sounds.

[2] Report to your referral doctor. Begin the following treatment while someone else contacts the doctor.

If you can NOT reach a doctor, follow this plan until you can.

[3] Medicine may include the following:

- Give **OXYGEN** (p.435), if needed:
 - ☐ very short of breath.
 - ☐ sleepy, confused.
 - ☐ blue color of lips, fingernails.
- Give patient's own inhalant medicine for wheezing, as directed. Examples: METAPROTERENOL, ALBUTEROL, ISOPROTERENOL.
- If *inhalant medicine is NOT available or if it does NOT help*:

Give *subcutaneous* shot of **EPINEPHRINE** 1:1000.

Weight	Approximate Age	Dose
Less than 25 lbs.	Less than 18 mo.	Consult doctor.
25-34 lbs.	18 mo. thru 3 yrs.	0.1 ml.
35-54 lbs.	4-7 yrs.	0.2 ml.
55-79 lbs.	8-10 yrs.	0.3 ml.
80-109 lbs.	11-13 yrs.	0.4 ml.
110 lbs. or more	14 yrs. or more	0.5 ml.

- Check vital signs (P & R) before and after shot. The doctor will want to know this information.
- Repeat shot every 30-90 minutes, if needed, up to a total of 3 doses.

- Give patient's own oral medicine for wheezing, as directed. Examples: AMINOPHYLLINE, THEOPHYLLINE (Quibron-SR®).
- If signs of respiratory infection (coughing up lots of sputum; fever), give an antibiotic:
 - ☐ if patient looks very sick, give same antibiotic dose as for pneumonia (Plan 5.10).
 - ☐ if patient does NOT look very sick, give same antibiotic dose as for bronchitis (Plan 5.7).

[4] Decide if transport is needed. If you can NOT reach a doctor, arrange for transport to the hospital if patient is very sick and is NOT getting better after taking the medicine.

- [5] Patient Education** should include the following:
- Patient should drink lots of liquid.
 - ☐ if patient can NOT drink, try again to contact your referral doctor. He may suggest that you give fluid by IV.
 - It may help to add moisture to the air with a vaporizer or steamer.
 - NO SMOKING by patient or by those nearby.

- [6] Recheck** as follows:
- If patient is very sick and is NOT getting better:
 - ☐ stay with him.
 - ☐ recheck vital signs every hour, more often as needed.
 - If patient is getting better after medicine, recheck in 2-3 hours.
 - ☐ if doing OK, recheck in one day, sooner if getting worse.
 - Examine:
 - ☐ vital signs: T, P, R.
 - ☐ chest.

5.10 Plan: Pneumonia

[1] Report NOW to your referral doctor.
If you can NOT reach a doctor, follow this plan until you can.

[2] Medicine should include one of the following antibiotics:

Give I.M. shot of **PROCAINE PENICILLIN** (Wycillin®).
• **Give shot every 12 hours:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	150,000 Units
15-24 lbs.	4-17 mo.	300,000 Units
25-34 lbs.	18 mo. thru 3 yrs.	450,000 Units
35 lbs. or more	4 yrs. or more	600,000 Units

OR,
If allergic to PENICILLIN:

Give **ERYTHROMYCIN** (200 mg./5 ml. suspension or 250 mg. tablets)
• **Four times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	60 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80 mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

OR,
If chronic lung disease, give same antibiotic dose and other medicines as for bronchitis (p.303), and continue with the following plan.

[3] Decide if transport is needed. If you can NOT reach a doctor, arrange for transport to the hospital if patient looks very sick and has one of the following signs:

- Very short of breath.
- Sleepy, confused.
- Blue color of lips, fingernails.

[4] Patient education should include the following:

- Activity: Little or none. Rest in bed until feeling better.
- Teach patient to do postural drainage with clapping, to help cough up sputum (p.314).

[5] Other plan should include the following:

- Do a TB skin test (p.311) if negative in past.
- Give additional patient education and medicine as needed. Go to "5.13 Plan: General, for Most Respiratory Infections."

[6] Recheck as follows:

- Recheck at these times:
 - ☐ every 12 hours until getting better.
 - ☐ once a day until OK.
 - ☐ before patient finishes the antibiotic.
- Examine:
 - ☐ vital signs: T, P, R.
 - ☐ chest.
- If patient is getting I.M. PENICILLIN shots, 24 hours after temperature is back to normal, switch to an oral antibiotic, as follows:
 - ☐ if less than 7 yrs.:

Give **AMOXICILLIN** (250 mg./5 ml. suspension or 250 mg. capsules).
• **Three times a day for a total of 10 days of antibiotic:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	75 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	125 mg. (2½ cc.)
25-34 lbs.	18 mo. thru 3 yrs.	175 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	250 mg. (5 cc.)

- ☐ if 7 yrs. or more:

Give **PENICILLIN V**
(250 mg. tablets).

- **Dose: 500 mg. (two tablets) four times a day for a total of 10 days of antibiotic.**

5.11 Plan: Flu

Make this assessment only after you have thought about all of the other assessments.

[1] Patient education may include the following:

- The flu is a an infection caused by a virus.
- The flu is NOT treated with antibiotics. (Antibiotics treat bacterial infections. Giving unneeded antibiotics for a viral infection may cause problems.)
- The flu *can* lead to other problems.

[2] Other plan may include additional patient education and medicine. Go to "5.13 Plan: General, for Most Respiratory Infections."

[3] Recheck only as needed. Tell patient to return to clinic in 2-3 days if NOT getting better, sooner if feeling worse, including:

- High fever or fever that lasts more than 3 days.
- Ear or chest pain.
- Coughing up more sputum.

5.12 Plan: Other or Unknown Respiratory Illness

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] If chronic lung disease, do the following:

- *If signs of respiratory infection* (coughing up more sputum than normal), give an antibiotic:
 - ☐ if patient looks very sick, now go to "5.10 Plan: Pneumonia." Follow that complete plan.

- ☐ if patient does NOT look very sick, now go to "5.7 Plan: Bronchitis." Follow that complete plan.

- *If patient has medicine for wheezing*, give patient's own medicine, as needed:
 - ☐ inhalant medicine for wheezing, as directed. Examples: METAPROTERENOL, ALBUTEROL, ISOPROTERENOL.
 - ☐ oral medicine for wheezing, as directed. Examples: AMINOPHYLLINE, THEOPHYLLINE (Quibron-SR®).
- Patient education should include patient education for "Lung Disease: Long-Term Care" (p.309).

[3] Consider other assessments that you can treat:

- If sick infant or small child, go to "Approach to the Sick Child," p.197.
- If older child or adult, check assessments for "Shortness of Breath," p.42.
- If you can NOT find the problem in this manual, for general patient education, as needed, go to:
 - ☐ plan 5.13, which follows.
 - ☐ "Lung Disease: Long-Term Care," p.307.

[4] Recheck in one day, sooner if patient is very sick or getting worse.

5.13 Plan: General, for Most Respiratory Infections

Most respiratory illness is from a virus infection.

[1] First, follow the specific plan above for your assessment.

[2] Patient education should include:

- Get patient education handouts from your referral hospital or other sources.
- Give information in chart 5.13.

Chart 5.13

Patient Education RESPIRATORY INFECTION

1. Drink lots of liquid.
 - Adults should drink 8-10 glasses of water or other liquids a day.
 - Avoid caffeine (coffee, regular tea, hot chocolate, cola drinks; p.446). Caffeine makes you lose fluid.
2. Add moisture to the air with a vaporizer or steamer.
3. Rest:
 - If you feel tired.
 - In any comfortable position.
4. NO SMOKING!
 - Smoking harms the respiratory system and makes respiratory problems worse.
 - If you are a smoker, you should stop, at *least* during this illness.
 - Avoid breathing in smoke from others, also.
5. Prevent spread of respiratory infections:
 - Stay away from others while you have a respiratory infection.
 - Cover your mouth when you cough.
 - Sneeze/cough into a tissue.
 - Do NOT share food, eating utensils, towels, or other things your mucus may touch.
 - Wash your hands often. If a virus is on your hands and you touch something, you spread the virus.

[3] Medicine/other treatment

depends on the problem. In general, you should report to your referral doctor for advice, unless he has signed for you to treat patients with non-prescription drugs without contacting him. While you are waiting to report, if needed for relief of symptoms, you may suggest the following for a few days:

If fever or pain, give ACETAMINOPHEN (Tylenol®) or ASPIRIN (p.416) as needed.

- Do NOT give ASPIRIN to a child with a respiratory infection. ASPIRIN may cause serious problems in a child with certain virus infections.

If stuffy/runny nose, the following may be used:

- If infant or young child: give **SALT WATER NOSE DROPS** as needed. Teach the parent:
 - ☐ put a few drops into each nostril.
 - ☐ suction out the mucus with a bulb syringe.
 - ☐ repeat as many times a day as needed.
 - ☐ when child gets another headcold, get more from clinic or make more: Add ½ tsp. salt to 1 cup water.
- If age one or more:

Give **PSEUDOEPHEDRINE**

(Sudafed®; 30 mg./5 ml. syrup or 60 mg. tablets).

- **3-4 times a day, if needed for stuffy/runny nose.**

Weight	Approximate Age	Dose
22-31 lbs.	1-2 yrs.	15 mg. 2.5 cc.
32-89 lbs.	3-11 yrs.	30 mg. (5 cc. or ½ tablet)
90 lbs. or more	12 yrs. or more	60 mg. (1 tablet)

If sore throat, suggest the following, as needed:

- If it hurts to swallow, eat soft foods.
- Gargle with warm salt water.
 - ☐ mix ½ to 1 tsp salt in 1 cup warm water.
- If older child or adult: Suck on hard candy.
 - ☐ avoid tooth decay: Stop doing this when throat is OK.
- If the above is NOT helping much and sore throat is from stuffy/runny nose ("post-nasal drip"), PSEUDOEPHEDRINE (Sudafed®) usually helps. For dose, see above.

If severe sore throat, contact your referral doctor for advice.

If hoarse voice, in addition to recommending lots of liquids, adding moisture to the air, and NOT smoking, tell the patient: "Rest your voice. Do not speak. Whisper if you must say something."

If cough, no medicine is usually suggested if patient drinks a lot of liquid and adds moisture to the air. If cough keeps patient awake or bothers patient a lot, you may suggest the following:

- If cough is from stuffy/runny nose dripping down the throat, PSEUDOEPHEDRINE (Sudafed®) usually helps:
 - ☐ for dose, see above.
 - ☐ if not helping, give GUAIFENESIN WITH DEXTROMETHORPHAN, as follows.
- If coughing up sputum: Do NOT use a cough suppressant medicine. Suggest that patient drink more liquid.
- If cough is dry:

Give **GUAIFENESIN WITH DEXTROMETHORPHAN**

(2-G/DM®, Robitussin-DM®)

- Do NOT give to patient who is coughing up sputum.
- **Every 6-8 hours, if needed to suppress cough.**

Weight	Approximate Age	Dose
Less than 45 lbs.	Less than 6 yrs	Do NOT give.
45-89 lbs.	6-11 yrs.	2.5 ml.
90 lbs. or more	12 yrs. or more	5-10 ml.

LUNG DISEASE: LONG-TERM CARE

Begin here for long-term care of patient with chronic lung disease. This includes patient with history of:

- Asthma.
- Bronchiectasis.
- Other chronic lung disease (chronic bronchitis, emphysema, COPD, others).

1. Get Information from the Doctor

You need to know the doctor's assessment and plan, including:

1.1 Medicine: Is patient supposed to take any medicine?

- If patient is on TB medicines, see p.310 for follow-up care.
- For other patients, for each medicine, find out the following:
 - ☐ name.
 - ☐ dose.
 - ☐ how often patient should take it.
 - ☐ warnings and side effects patient should look for.
 - ☐ possible problems when taking other medicine at the same time (drug interactions).

1.2 Are there any special problems or symptoms to watch for in this patient?

1.3 Is there other special patient education, such as:

- Things the patient should avoid?
- Exercise: What sort of regular exercise is good for this patient?
- Will postural drainage with clapping help this patient (p.314)?

1.4 Does patient need any special appointments or tests? If so, how will these be arranged?

2. Get History From Patient

2.1 If on medicine:

- Does patient take medicine as directed?

- Are there side effects or problems from the medicine?
- 2.2** Does patient have any problems, such as:
- Cough? If so:
 - ☐ has cough changed in any way?
 - ☐ coughing up anything? If so:
 - has sputum changed in any way?
 - how much is coughed up (tablespoon a day, cup a day)?
 - what does it look like (clear mucus, cloudy, yellow or pink color)?
 - if coughing up blood: how much (few streaks in mucus, more)?
 - Shortness of breath? If so, when?
 - ☐ when exercising?
 - ☐ when lying down?
- 2.3** Has patient had flu or pneumococcal immunizations?

3. Exam

Check for changes from patient's usual exam:

3.1 Vital signs: T, P, R, BP.

3.2 Weight.

3.3 Chest:

- Breath sounds:
 - ☐ different on one side of the body?
 - ☐ clear, or with
 - rales (crackles)?
 - rhonchi (snoring sounds)?
 - wheezes?
 - other?
- Percuss (p.387): Is sound more "hollow" or more dull than normal?

4. Assessment

4.1 Your assessment should include:
Chronic lung disease: long-term care.

4.2 Be more specific, if possible. For example, your assessment may include one of the following problems:

- **Asthma.**
- **Bronchiectasis.**
- **Emphysema.**
- **COPD.**

4.3 Also include in your assessment:

- "Doing well," if no problems.
- Problems with medicine:
 - ☐ side effects.
 - ☐ NOT taking as directed.
- Other problems you have found.

5. Plan

5.1 If signs of respiratory infection (coughing up more sputum than normal), treat with antibiotics. Now go to p.303. Follow the same plan as for "Bronchitis."

5.2 Patient education is important in order to try to control the disease. Patient handouts should be available through your referral doctor or health corporation. Include the following information:

If asthma patient, patient should:

- Understand that an asthma attack may have different causes in different patients, including: allergy, viral respiratory infection, sinus infection, nervousness, exercise, exposure to hot or cold air, and certain drugs.
- Avoid, if possible, causes for patient's asthma attacks.
- Avoid ASPIRIN and other similar anti-inflammatory medicines, such as IBUPROFEN (Motrin®). Many patients with asthma are allergic to such medicines.
- Use medicines prescribed by referral doctor
 - ☐ to try to prevent asthma attacks.
 - ☐ to control wheezing, as needed.

If bronchiectasis patient, patient education should include the following:

- Patient should return to clinic early for antibiotic treatment if he has worse cough, more sputum, or other signs of respiratory infection.
- Teach and remind patient to do postural drainage with clapping as directed on p.314.

If other chronic lung disease (such as chronic bronchitis, emphysema, COPD), patient should understand that:

- Many of these other chronic lung diseases are caused by smoking and repeated lung infections.
- Prevention plan may include:
 - ☐ drugs to control wheezing and shortness of breath, as needed.
 - ☐ early antibiotic treatment if patient has worse cough, more sputum, or other signs of respiratory infection.

General information for all should include:

- Suggestions from your referral doctor:
 - ☐ things patient should avoid.
 - ☐ postural drainage with clapping (p.314).
- Give information in chart 5.2.

5.3 If on medicine: your plan should include the following:

- Discuss importance of taking medicine.
- Remind patient about warnings and possible side effects.
- If side effects, treat as recommended by your referral doctor.
- Give patient a refill, if needed.

5.4 Support the patient and family.

Chronic lung disease is difficult to live with, both physically and mentally.

- Help patient and family to talk about problems, concerns, and feelings.
 - ☐ follow general guidelines for talking and counseling (p.219).
- If needed, mention the possibility of counseling in your community.

5.5 Recheck: Make appointment for next visit. If doing well, see patient every 1-2 months.

5.6 Report to your referral doctor:

- If possible, send a copy of your SOAP note to the referral doctor. Contact him sooner if you found any problems.
- Report how often patient has come to clinic with lung problems.
- Ask doctor about special immunizations that are needed for this patient (flu, pneumococcal).

Chart 5.2

Patient Education IF YOU HAVE LUNG DISEASE

1. Drink lots of liquid.
 - Most adults should drink 8-10 glasses of water or other liquids a day.
 - ☐ if you also have heart failure, ask your referral doctor what amount you should drink.
 - Avoid caffeine drinks (p.446).
2. Add moisture to the air with a vaporizer or steamer.
3. NO SMOKING!
 - Smoking harms the respiratory system and makes respiratory problems worse.
 - Avoid breathing in smoke from others, too.
4. Diet:
 - Eat a well-balanced diet, with foods from the four food groups every day (p.444).
 - If you get short of breath, breathing may be easier if you eat 4-6 small meals a day rather than 2-3 larger meals.
 - Stay at your normal weight.
 - ☐ if you are overweight, you should gradually lose weight.
5. Get enough rest. Rest if you feel tired, in any comfortable position.
6. Exercise regularly:
 - Plan to walk or get other exercise for 20 minutes, at least 3 times a week.
 - ☐ do NOT get short of breath.
 - Consult your doctor before starting. You may need special instructions.
7. If you get short of breath, the following may help:
 - Try to relax. Let your shoulders droop. Breathe in slowly.
 - Purse your lips like you would whistle. Breathe out slowly.
8. Return to clinic as soon as possible if you have any signs of respiratory infection, including:
 - Coughing up more sputum than usual.
 - Shortness of breath, getting worse.
 - Fever or chills.

5.7 Other plan should include the following:

- Order more medicines, if needed.
 - ☐ fill out the pharmacy refill request, if needed.
- *If using home OXYGEN machine*, maintenance needs to be done every six months by state or regional respiratory therapist. If needed, remind your referral doctor or other person in charge.
- Check to see that:
 - ☐ patient's name is on list of patients to be seen on a field trip by doctor, PHN.
 - ☐ this chronic problem and patient's medicines are written on patient's problem list.

TB (Tuberculosis)

TB: GENERAL INFORMATION

TB is a serious medical concern in Alaska. If you have questions about TB in your village, you may contact the State TB Control Office in Anchorage:

- Call collect: 561-4235
- Write:

Communicable Disease Control
3601 C Street, Suite 576
P.O. Box 196333
Anchorage, Alaska 99519-6333

What Is TB & How Is It Spread?

TB is an infection, usually of the respiratory system. This disease is caused by specific bacteria.

TB bacteria are spread into the air when a patient who is sick with active TB coughs or sneezes. A person catches TB by breathing in air that has TB bacteria in it. TB is NOT spread by objects such as dishes or clothes. It is NOT spread by food or water.

People at risk for getting TB are those who are exposed to a patient with active TB for long periods of time indoors (at home, school, work, other).

Stages of TB

Early or primary TB This infection is usually "silent"; patient does not feel ill.

- Patient may have symptoms of a "cold" or the "flu."
- Bacteria infect the lung first and may spread through the blood to other parts of the body (lymph nodes, kidneys, bones, other parts).

Dormant or "sleeping" TB is what usually happens next:

- The body controls the bacteria and seals them off.
- Even though this early infection "heals," some bacteria often stay alive. These dormant ("sleeping") TB bacteria:
 - ☐ will be detected by a TB skin test.
 - ☐ may become active ("wake up") as many as 40 years later and cause active TB.

Active TB may happen:

- Most of the time active TB happens because the dormant TB bacteria become active when the body's natural defenses weaken for some reason. Patient may get active TB even though he took TB medicines as directed and has been OK for years.
- People at high risk for getting active TB again are those with any of the following:
 - ☐ stomach surgery.
 - ☐ certain illnesses: chronic lung disease, diabetes, alcohol abuse, kidney disease.
 - ☐ pregnancy.
 - ☐ history of NOT taking TB medicines as prescribed.
 - ☐ taking steroid medicine (examples: hydrocortisone, prednisone).
 - ☐ old age.
 - ☐ poor nutrition.
- There may be NO dormant stage. In this case, the early infection does not heal. The patient is usually very sick, and TB bacteria may spread

throughout the body. People at high risk are those in the following groups:

- ☐ less than 2 yrs.
- ☐ teenagers and young adults.
- ☐ pregnant women.
- ☐ old age.

Symptoms of active TB may include the following:

- Feeling sick, weak, tired.
- Fever.
- Weight loss.
- *If a child*: failure to gain weight.
- Sweating at night.
- Stubborn cough or cold:
 - ☐ lasting for weeks.
 - ☐ not helped by antibiotics.
 - ☐ coughing up sputum: cloudy yellow or green.
 - ☐ coughing up blood.
- Chest pain with breathing.
- Swollen lymph nodes.
- Loss of appetite.
- Pus or blood in the urine.
- Joint pain or swelling.

TB: Prevention and Early Detection

There are a number of things that are important for preventing the disease or spread of TB:

- Encourage patients to stay healthy (p.441, "Wellness").
- Have a regular village health surveillance program (p.441), one that includes TB skin testing.
- Be suspicious. Review the symptoms of TB. If you think a patient may have TB, give skin test.
- If patient's skin test turns positive, follow-up as recommended by your referral doctor.
- Give careful follow-up care to patients on TB medicine (which follows, in this section).
- Follow-up patients after TB has been treated:
 - ☐ tell patients to contact you for any symptoms of TB (above). This is especially true for patients at high risk for getting active TB again (above).
 - ☐ encourage patients to have a chest x-ray if offered in the village or ordered by PHN or referral doctor.
 - ☐ if coughing, collect sputums for TB culture (p.313).

TB: Treatment

Active TB is treated with 2 or more medicines, to prevent the bacteria from becoming resistant. Usually Rifamate® (combination of INH and RIFAMPIN) is given.

TB test converters (p.312) and close contacts of patients with active TB are usually treated with INH (ISONIAZID) alone, for prevention of active TB.

PATIENT ON TB MEDS: FOLLOW-UP CARE

Begin here for follow-up care of patient who is supposed to be taking any kind of TB medicine. Patient will take medicine better if he gets encouragement and support often.

1. Get Information from the Doctor

You need to know the doctor's assessment and plan, including:

1.1 Medicine: For each medicine patient is supposed to take, find out the following:

- Name.
 - Dose.
 - How often patient should take it.
 - Warnings and side effects patient should look for.
 - Possible problems when taking other medicine at the same time (drug interactions).
 - When should medicine be stopped?
- 1.2** Are there any special problems or symptoms to watch for in this patient?
- 1.3** Is there other special patient education, such as:

- Things the patient should avoid?
- Will postural drainage with clapping help this patient (p.314)?

1.4 Does patient need any special appointments or tests? If so, how will these be arranged?

2. Get History From Patient

2.1 Medicine:

- Does patient take medicine as directed?
- Are there side effects or problems from the medicine?
- Look at patient's container(s) of medicine. Has patient used the correct amount since you last saw him?

2.2 Does patient have any problems, such as:

- Feeling sick, weak, tired?
- Sweating at night?
- Cough? If so, coughing up anything? If so:
 - ☐ has it changed in any way?
 - ☐ how much is coughed up (tablespoon a day, cup a day)?
 - ☐ what does it look like (clear mucus, cloudy, yellow or pink color)?
 - ☐ if coughing up blood: how much (few streaks in mucus, more)?
- Shortness of breath? If so, when?
 - ☐ when exercising?
 - ☐ when lying down?
- Feeling sad (depressed)?

3. Exam

3.1 Vital signs: T, P, R, BP.

3.2 *If problems*, also check the following for changes from patient's usual exam:

- Weight.
- General appearance.
- Chest:
 - ☐ breath sounds:
 - different on one side of the body?
 - clear, or with rales (crackles), rhonchi (snoring sounds), wheezes?
 - ☐ percuss (p.387): Is chest more hollow or more dull than normal?
- Lab tests/other: Collect sputum samples or do other things requested by the PHN or your referral doctor.

4. Assessment

4.1 Your assessment should be:

Patient on TB medicine: Follow-up care.

4.2 Include in your assessment:

- "Doing well," if no problems.
- Problems with medicine:
 - ☐ side effects.
 - ☐ NOT taking as directed.
- Other problems you have found.

5. Plan

5.1 Patient education is important in order to try to control the disease, so it does not get worse.

- Get patient education handouts from your referral hospital or other sources.
- Patient education should include the following:
 - ☐ information about the disease (p.309).
 - ☐ general patient education on "Lung Disease" (p.309), including the importance of:
 - NO SMOKING.
 - eating a well-balanced diet.
 - getting enough rest.
 - exercising regularly.

5.2 Medicine plan should include the following:

- Medicine should be taken as prescribed for the full time period.
- If patient has trouble remembering, the PHN or doctor may ask you to give medicine in clinic each day or several times a week.
- Remind patient about warnings and possible side effects.
- If side effects, treat as recommended by your referral doctor.
- Give patient a refill, if needed.

5.3 Recheck: Make appointment for next visit. If doing well, see patient every two months.

5.4 Report to your referral doctor:

- If possible, send a copy of your SOAP note to the doctor. Contact him sooner if you found any problems or changes, including:
 - ☐ problems with medicine (not taking it right, side effects).
 - ☐ coughing up sputum.

- ☐ weight loss.
- ☐ pregnancy.
- ☐ depression (sadness), or thoughts about killing himself.
- Ask doctor about special immunizations that may be needed for this patient (flu, pneumococcal).

5.5 Other plan should include the following:

- Contact your PHN to order more medicines, if needed.
- Check to see that:
 - ☐ patient's name is on list of patients to be seen on a field trip by doctor, PHN.
 - ☐ this problem is written on patient's problem list.
- Continue to follow-up patients after TB has been treated. See "TB: Prevention," p.310.

TB SKIN TESTS AND CULTURES

TB SKIN TESTS: GENERAL INFORMATION

It may take 2-12 weeks after TB infection before skin test will become positive. A positive TB skin test means that patient has been infected with TB and that the body has made some defenses against TB.

Skin testing for TB should be done as part of the regular village health surveillance program (p.441).

A TB skin test may be given before, at the same time, or more than six weeks after giving measles vaccine.

- The skin test should NOT be given if patient got measles vaccine within the past six weeks. In this case the test may be wrong: patient with TB may have negative test.

Before you give a TB skin test,

carefully review the patient's TB history. A patient who has had TB or a positive TB test in the past may have a severe reaction to a skin test now. Ask the following questions:

- "Have you ever had tuberculosis (TB)?"
- *If patient says he has NOT had TB, ask:*
 - ☐ "have you had a positive skin test (arm swelled or turned red where the test was put on)?"
 - ☐ "when was your last skin test?"
 - ☐ "have you ever taken any medicines for TB such as INH? If so, for how long?"

Prevent problems: Do NOT give TB skin test to patient with any of the following:

- History:
 - ☐ active TB in the past.
 - ☐ positive TB skin test in the past, unless told to do so by your referral doctor.
 - ☐ taking steroid medicine (examples: hydrocortisone, prednisone).
- Exam:
 - ☐ looks very sick.
 - ☐ high fever.
 - ☐ skin rash that covers more than half of the forearm.

MONO-VACC® TB SKIN TEST

This TB skin test is used to screen patients for TB. If test is positive, usually patient is next tested with a P.P.D. test (in this section).

Equipment Needed:

ALCOHOL wipes or ACETONE and cotton
Mono-Vacc® skin test

1. Get Set Up

1.1 Explain to the patient what you will do.

1.2 Wash your hands.

1.3 Get your test materials together.

- Check the directions to make sure you have the same test that is described here.
- Check the expiration date.

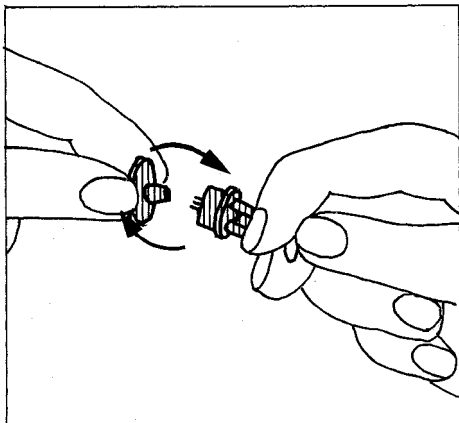
2. Get Test Site and Mono-Vacc® Ready

2.1 Find a spot on the inner side of patient's **left forearm** where there are no veins, scars or skin problems.

2.2 Clean the spot with ALCOHOL or ACETONE. *Wait for it to dry* before you give the test.

2.3 Hold the Mono-Vacc® like a syringe, with your thumb on top and the stem between your first two fingers.

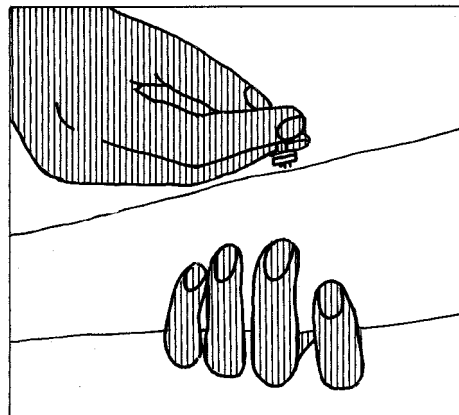
2.4 While twisting the cap, carefully pull the cap away from the points.



2.5 With your other hand, stretch the skin slightly where you want to give the test.

3. Give the Test

3.1 Press the points firmly into the skin.



3.2 Remove the Mono-Vacc®. On the skin, you should see the punctures and an imprint of the round base, if you pressed firmly enough.

4. Recheck/Read the Test

4.1 Tell patient to return to clinic so you can look at the test between 48 and 96 hours later (2-4 days).

4.2 Read the test:

- *Look* at the skin for a raised area (bump).
- *Feel* for a bump in the skin: a raised area like a mosquito bite.
- Make an assessment. Your assessment will be one of the following:

- ☐ **negative Mono-Vacc® skin test.** This is your assessment if you can NOT feel a bump.
- ☐ **Positive Mono-Vacc® skin test.** This is your assessment if you can feel any bump at all. Patient has a reaction to the test.

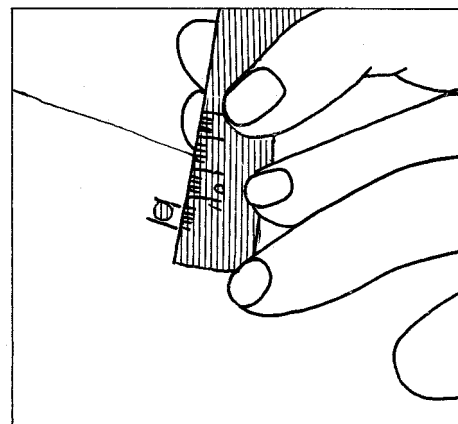
4.3 If positive Mono-Vacc® skin test, do the following:

[1] Feel the edges of the raised area, and mark the edges with a pen.

- It may help to use the pen to find the edges.

[2] Measure the size of the raised area:

- Use a mm. ruler.
- Measure across the raised area (bump) at its widest spot.
- ☐ measure just the bump, NOT the redness.



[3] Record the size of the raised area.

[4] Report to your referral doctor or PHN, who will probably recommend that you do the following:

- P.P.D. skin test to confirm the

positive reaction (P.P.D. follows in this section).

- Complete history and screening physical exam (p.364), including checking for:
 - ☐ enlarged lymph nodes, especially in the neck.
 - ☐ chest: breath sounds.
- Lab test: Urine dipstick for blood, protein.
- TB culture: Sputum sample (except from a child).
- If patient had a negative TB test within the last two years, he is a "recent converter." Someone in his house may have active TB and may have infected other family members. Check other people in the house for TB:
 - ☐ collect a sputum sample from each person with history of TB.
 - ☐ do a P.P.D. test on each person who has been negative in the past.

[5] If severe reaction to TB skin test, and you can NOT reach the doctor:

- Medicine may help:

Apply a small amount of **HYDROCORTISONE CREAM** to the sore **three times a day for 3-4 days.**

- Ice packs may help, on and off, for the first 24 hours.

P.P.D. SKIN TEST

A P.P.D. skin test for TB is given as an injection into the skin (intradermal injection). You may be asked to give a P.P.D. skin test if patient has a positive TB screening test with Mono-Vacc®.

- Only give a P.P.D. if ordered by your referral doctor or PHN.

P.P.D.

Supplies needed:

Tuberculin syringe (1 cc.)
25G x 5/8" needle
ALCOHOL wipes
TUBERCULIN, PURIFIED PROTEIN DERIVATIVE, 5 TU/0.1 ml.
2x2 or 4x4 (gauze sponge)

1. Get Set Up

- 1.1** Before you begin, follow guidelines on p.311, "Before you give a TB skin test."
- 1.2** Explain to the patient what you will do.
- 1.3** Wash your hands.
- 1.4** Get your syringe, needle, and the P.P.D. medicine ready to inject (p.419, "Using Injectable Medicine"):
 - Check the bottle for:
 - ☐ name (TUBERCULIN, PURIFIED PROTEIN DERIVATIVE, 5 TU/0.1 ml).
 - ☐ expiration date.
 - Shake well.
 - Clean the rubber stopper well with ALCOHOL wipe, and let it dry.
 - Draw up 0.1 cc. of liquid from the bottle.
 - Put on needle cover while you get patient ready.
 - Recheck to make sure you have the right amount of P.P.D. (0.1 cc.).

2. Find the Right Spot to Inject

- 2.1** Look for a spot (injection site) on the inside of patient's **left forearm** where there are no veins, scars or skin problems.

3. Get Injection Site Ready

3.1 Clean the skin well with an ALCOHOL wipe.

- Wipe skin where you will inject.
- Let skin dry.

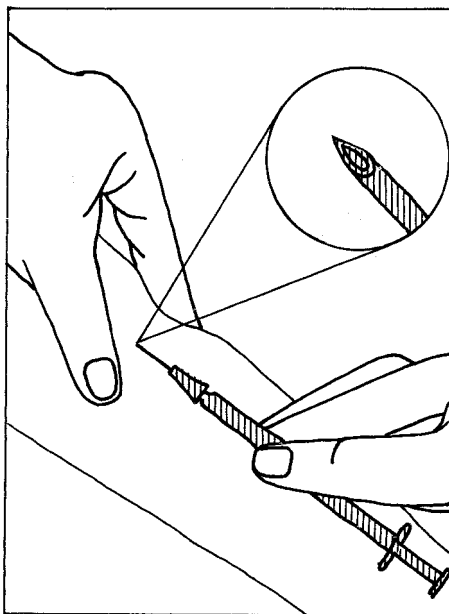
3.2 Remove needle cover. Hold syringe in the hand you will use to inject.

3.3 With your other hand, stretch the skin tightly where you will inject.

4. Insert Needle

4.1 Hold the syringe almost flat, parallel to the skin.

4.2 Carefully insert the needle, **bevel up**, until bevel is just about 1/8 inch into skin.



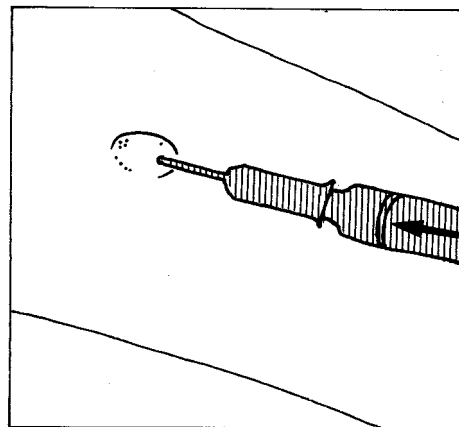
Insert needle.

5. Inject

Do NOT aspirate.

5.1 Slowly inject the liquid.

- As you inject, you should see a little bump (wheal, like a mosquito bite) appear in the skin at the needle tip.
- If bump does NOT appear, repeat P.P.D. at new site on other arm.



Inject.

6. Remove Needle

7. Recheck/Read the Test

7.1 Tell patient to return to clinic so you can look at the test between 48-72 hrs. later (2-3 days).

7.2 To read the test, follow the same instructions as you would for reading a Mono-Vacc® test, p.312.

7.3 Report all P.P.D. test results:

- 0-4 mm. = negative.
- 5-9 mm. = questionable. Doctor or PHN may ask you to repeat the test as soon as possible.
- 10 mm. or more = positive.

TB CULTURES: COLLECTING & MAILING

Sputum and urine samples are cultured to check for TB bacteria. If culture is positive, patient has active TB. Patient with positive sputum culture is likely to infect others.

Collect samples as close to mail plane day as possible.

Collecting Sputum for TB Culture

Label a plastic sputum container. Give it to the patient, and explain the following:

Patient Education COLLECTING SPUTUM FOR TB CULTURE

Collect the sputum when you first get up in the morning, before you eat or drink anything. Before you begin, rinse out your mouth well with water.

1. Take 5 or 6 deep breaths. Rest for a few seconds between breaths.
2. Next, cough up as much sputum as you can. Take a deep breath and cough:
 - Cough once to loosen sputum.
 - Cough a second time to bring it up. Cough quickly, hard, and deep.
3. After each deep cough, clear your throat into the sputum container.
4. Repeat these three steps until the container is filled to the 5.0 ml. line.
5. If 3 sputum samples are requested:
 - Collect one sputum a day for three days.
 - Put each day's sample in a separate container.
6. Keep the sputum container in the refrigerator until you take it to the clinic.

Collecting Urine for TB Culture

If TB bacteria are growing in the kidney, it may be possible to culture them from the urine.

Use the same kind of plastic container used for sputum sample. Label the container, give it to the patient, and explain the following:

Patient Education COLLECTING URINE FOR TB CULTURE

1. Collect the urine when you first get up in the morning.
2. Urinate into the plastic container until it is about $\frac{1}{2}$ full.
3. Keep the urine container in the refrigerator until you take it to the clinic.

Mailing Samples for TB Cultures

Do the following:

- Fill out the tuberculosis lab slip. Be sure to include patient's name, date of birth, and village.
- *Screw cap on plastic container tightly* so it does not leak.
- Place plastic container in inner metal tube.
- Wrap the filled out lab slip around inner metal tube.
- Next, put inner metal tube into mailing tube.
- Keep samples in refrigerator until just before mail plane comes.
- Mail samples by regular mail.

POSTURAL DRAINAGE WITH CLAPPING

Postural drainage with clapping (percussion) helps the patient with lung problems to cough up sputum and prevent further damage to the lungs. Gravity helps to drain sputum from the lungs.

General Approach

Postural drainage with clapping should be done:

- At least once a day, and increased to 3 times a day when patient has worse cough, more sputum, or other signs of respiratory infection.
- Before eating, to prevent vomiting.
 - ☐ morning is a good time.

Positions for postural drainage: Patient should get in several positions, in order to drain different parts of the lung.

- Each position should be comfortable.
 - ☐ a child can be held on parent's lap.

- For certain patients, the doctor may tell you special positions to use.
- For other patients, use the positions shown in the next drawings.

Clapping should be done over clothing or other material, in order to prevent skin injury.

Doing Postural Drainage and Clapping

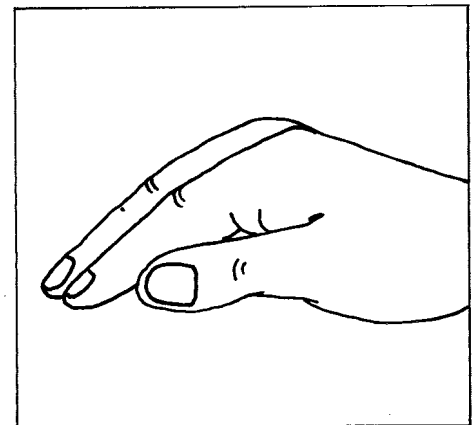
[1] Before you start:

- If prescribed, have patient breathe in steam or special medicine.
- Give patient a cup or bowl for him to cough into.
- Remind patient to breathe slowly and deeply during the procedure.

[2] Put patient in first position.

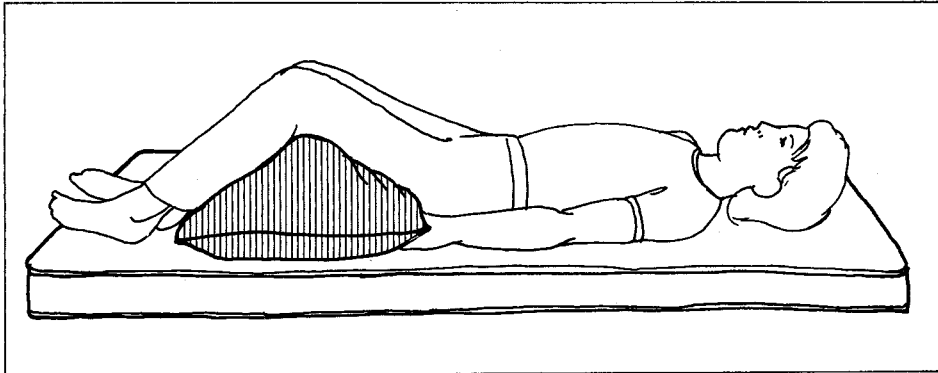
[3] Clap the chest.

- Hold each hand like a cup, with fingers together, in a shape that will fit against the chest.

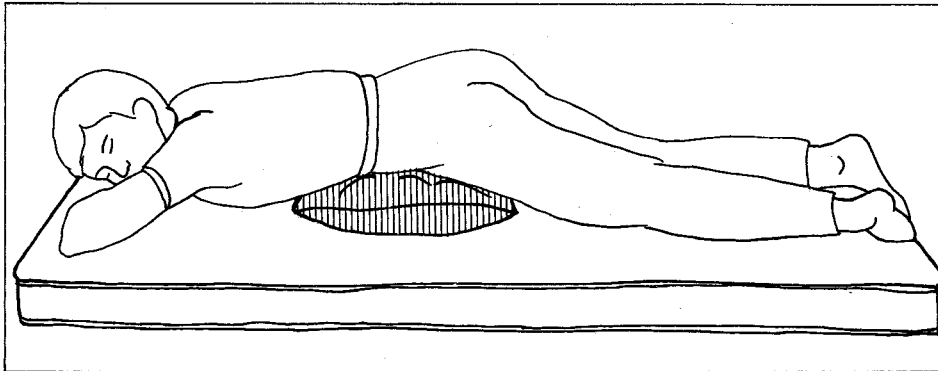


Hand position for clapping.

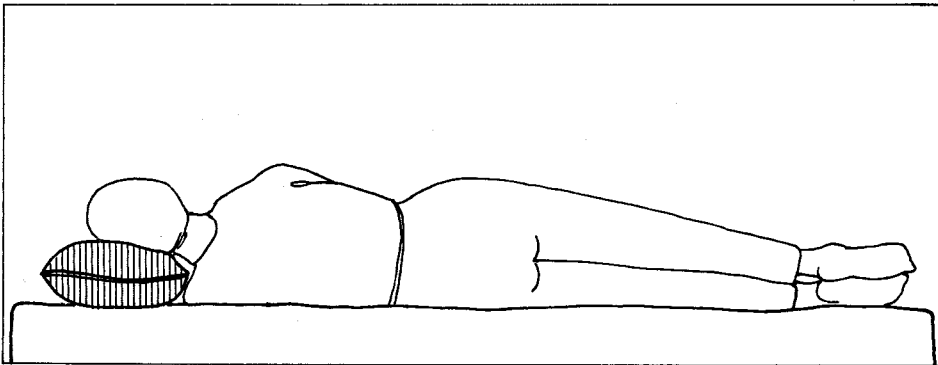
- Clap over the ribs, from bottom to top of chest:
 - ☐ clap with force, but do NOT cause pain.
 - ☐ do NOT clap over a woman's breasts.
 - ☐ do not clap over liver, kidneys, or center of spine.
- Clap while patient stays in the position for 3-5 minutes, if possible.
- Before changing to the next position, patient should cough deeply several times.
- [4]** Change position and repeat clapping.



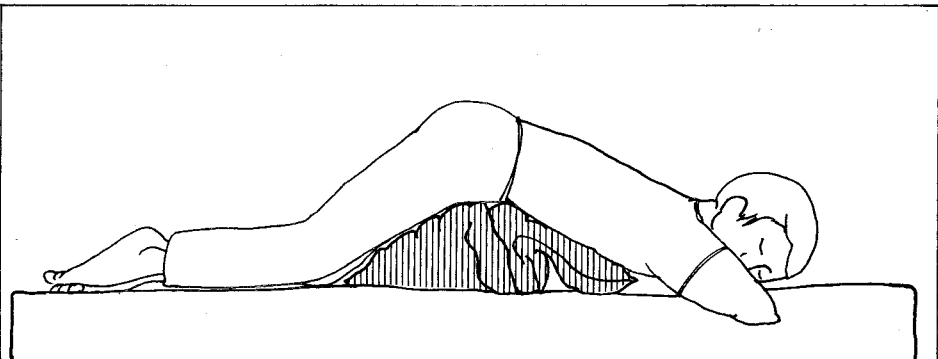
☐ lying on back.



☐ lying on abdomen.



☐ lying on each side.



☐ lying on abdomen with chest angled down.

SKIN PROBLEMS

It often helps to look at a skin problem before you get history and examine in more detail. The assessment may be obvious.

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** How did the problem start?
 - Did it start as an insect bite, an injury, a scratch, or a pimple?
- [2]** What is the problem like now?
 - Where exactly is the skin problem?
 - ☐ if mainly on the genitals, now go to p.129.
 - ☐ if mainly on the anus, now go to p.75.
 - What does it feel like? Is there any pain, burning, or itching?
 - ☐ if itching, is the itching worse at certain times of the day or night?
 - What makes it better or worse?
 - ☐ hot water, sweating, eating certain foods, wearing certain kinds of clothing?
- [3]** Does patient have other skin problems, such as:
 - Swelling of skin (edema)? If so, where?
 - History of skin disease?
- [4]** Recent history:
 - If rash, has patient used something on the skin that may irritate or cause allergic reaction? Examples:
 - ☐ medicines: spray, powder, cream?
 - ☐ a new soap?
 - ☐ some chemical?
 - ☐ new clothing?

1.2 Past Health History

- [1]** Illnesses:
 - Asthma?
 - Hay fever?

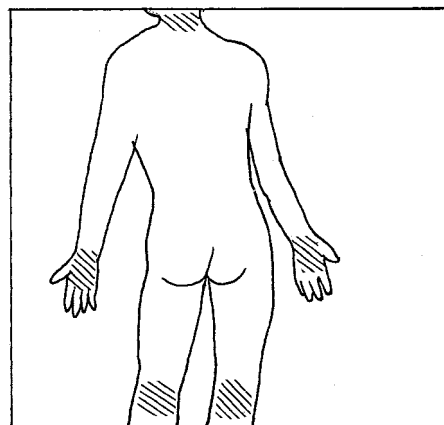
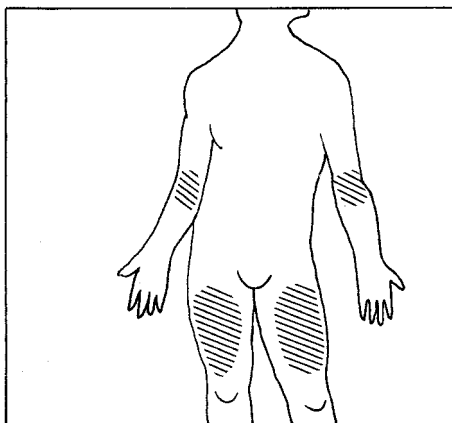
- Kidney disease?
- Diabetes?
- [2]** Allergies? If so:
 - What is patient allergic to?
 - What happens when patient has allergic reaction?
 - What medicine has patient taken for this problem?
- [3]** Medicines: What medicines is patient taking now?
- [4]** Immunizations:
 - When was last TETANUS shot?
 - If a child, review immunization card to see if it is up to date.

1.3 Other History

- [1]** Does patient have any other complaints, such as:
 - Feeling sick, weak, tired?
 - Fever or chills?
 - Stuffy nose? Runny nose?
 - Sore throat?
 - Shortness of breath?
 - Joint pain or swelling (arthritis)?
- [2]** Does anyone else at home have the same problem?
- [3]** Is there a family history of the same problem?

2. Exam

- 2.1** General appearance.
- 2.2** Vital signs: T, P, R, BP.
 - If fever and rash, plan to report patient to your referral doctor. The doctor will probably need to report the disease to the state.
- 2.3** Skin. Examine the skin problem closely.
 - [1]** Appearance:
 - Location. It may help to make a drawing to show where the skin problem is.



Example: skin problem is in these areas.

- Number of lesions.
 - Size and shape.
 - Is it raised/flat/depressed?
 - Color.
 - Moisture.
 - Other appearance.
- [2]** Feel the area:
 - Is it tender to touch?
 - What does it feel like (soft, firm, hard)?
 - [3]** Other exam, if needed:
 - If a lump, is it movable or attached to something?
 - ☐ try to pick up or move skin over the lump.
 - ☐ try to move/slide lump over tissue that is underneath.
 - If swollen area, check for pitting edema: Press thumb firmly into skin for 1-2 seconds.
 - [4]** Feel for enlarged lymph nodes in the area (p.385). If felt, note size, tenderness, and if movable.

3. Assessment

3.1 Your assessment should be: **Skin problem.**

3.2 Try to make a more specific assessment. Use chart 3.2.

Chart 3.2

Skin Problems: Some Assessments and Typical Findings

Assessment	History	Exam
RED STREAK [lymphangitis] OR CELLULITIS [infections, usually caused by strep bacterial] (Plan 4.1)	Problem may have started as a small break in the skin. May feel sick, have fever and chills.	Patient may look sick, have fever. Skin has one of the following: <ul style="list-style-type: none"> • Red streak up arm or leg. • Inflamed area (tender, warm, red, swollen) without clear edges. Enlarged, tender lymph nodes.
INFECTED WOUND [caused by bacteria] (Plan 4.2)	Wound, cut, or break in skin seems to be getting worse instead of better. If wound is from a sea mammal (seal, walrus), it may start to hurt more after 4-5 days.	Patient may look sick, have fever. Wound is inflamed, with tender, warm, red, swollen edges; usually pus is seen. Enlarged, tender lymph nodes.
ABSCCESS [boil, furuncle; infection caused by bacterial] (Plan 4.3)	Problem may have started around the base of a hair. May feel sick, have fever and chills.	May look sick, have fever. Skin problem: <ul style="list-style-type: none"> • Inflamed lump (very tender; warm, red, swollen). • Has edges that are firm, from swelling. • Later, in center, becomes soft, white or yellow (from pus inside); may drain pus. Enlarged, tender lymph nodes.
IMPETIGO [infection mainly caused by strep bacteria] (Plan 4.4)	Often patient is a child or an adult who has not taken good care of a skin problem. Sores: <ul style="list-style-type: none"> • May have started from a small, red, flat area. • May have started from an insect bite, scratch, or other break in the skin; then spread. • Usually itch. • As described under "Exam." 	Sores: <ul style="list-style-type: none"> • May be pinhead size blisters, filled with thin, yellow fluid, like honey. • Dry, yellow crusts; scabs. • A little bit of pus. • NOT very inflamed (NOT very tender to touch, warm, red, or swollen). May have enlarged, tender lymph nodes.
ALLERGIC REACTION (Plan 4.6)	Rash: <ul style="list-style-type: none"> • May have started quickly, in reaction to something such as food, medicine, something breathed in, insect bites, heat or cold. • Itches a lot. • As described under "Exam." May complain of swelling (in area of rash, face, eyes). Past history or family history of allergies.	May have low fever. Rash may include: <ul style="list-style-type: none"> • Red, raised spots. • Swelling. • Hives (urticaria): sizes usually 1 cm. or larger; red, swollen, raised "welts" with sharp edges; pink "halo" around edges; center may be white, from swelling. Exam may also show: <ul style="list-style-type: none"> • Shock (weak, fast pulse; low BP), severe swelling, wheezing, or shortness of breath. If so, go to p.8. • Watery eyes.

Chart 3.2

Skin Problems: Some Assessments and Typical Findings *(Continued)*

Assessment	History	Exam
CHICKEN POX [infection caused by virus] (Plan 4.7)	Rash: • Started 11-20 days after exposure. • Began on 2nd day of illness. • Itches. • As described under "Exam." Headache Others in town have same problem.	Low fever. Rash: • Started on trunk; later on face, neck, arms, and legs. • All types seen at the same time: starts as small flat area; becomes a pinhead size blister with red edges; breaks and forms crust. • Lasts 1-2 weeks.
DERMATITIS [includes eczema (atopic dermatitis), contact dermatitis; caused by an allergy or by contact with an irritating chemical] (Plan 4.9)	Usually a recurrent rash: • May start after: — touching something that may irritate or cause allergic reaction (chemical, soap, hot water). — emotional upset. — eating something patient is allergic to. • Itches; may burn. • As described under "Exam."	Rash: • Often on the face and neck, hands and wrists, inside of elbows, behind knees. In infant, may cover most of body. • In areas exposed to irritation. • May start as inflamed skin (tender, warm, red, swollen); develops pinhead size blisters that break, ooze, and form crusts as they dry. • Often small scabs from scratching too hard. • If chronic, skin becomes dry, thick, has more obvious skin lines (markings), and may have more or less color than normal.
FUNGUS [tinea, ringworm, athlete's foot; skin infection caused by fungus] (Plan 4.11)	Rash: • Spreading slowly. • As described under "Exam." • Itches.	<i>If on feet</i> , may have: • Moist, cracked skin in-between toes. • Tiny flakes of skin on much of the foot. • Pinhead size blisters on fingers (allergic reaction). <i>If in hair</i> : loss of hair; hair broken off; dull color. Rash on other skin areas: • Red, flat; sharp edges which may be raised. • May have a few pinhead size blisters at edges. • Spreads out from edges; areas infected first clear up, look OK.
LICE [pediculosis, crabs; caused by small insects, usually living around body hair] (Plan 4.13)	Itching: • Starts about 30 days after exposure. • May be so severe that patient has sores from scratching too hard. Skin problem, as described under "Exam." May be similar problem in family member or close contact.	May see lice on hair, body, or clothes, next to body. <i>Hair</i> : Nits (tiny white eggs) seen attached to hair. Skin problem ("rash"): • May have small bite marks; hives. • Often small scabs from scratching too hard.

Chart 3.2

Skin Problems: Some Assessments and Typical Findings (Continued)

Assessment	History	Exam
SCABIES [caused by small insects (mites) living in the skin] (Plan 4.14)	Skin problem: Started about 30 days after exposure; as described under "Exam." Itching, usually worse at night. May be similar problem in family member or close contact.	Skin problem ("rash"): • Location may include in-between fingers, wrists, elbows, breasts, beltline, genital area. • A few pinhead size, round blisters or lumps. • May see burrows from the insect: small, wavy, pink-red lines. • Often small scabs from scratching too hard. • May have hives.
SCARLET FEVER [infection caused by strep bacteria] (Plan: p.301, "Strep Throat")	Feels sick; fever and chills. May have headache. Runny nose: Usually NOT; but may, if less than 3 yrs. Sore throat; hurts to swallow. Rash: • Started on 2nd day of illness. • As described under "Exam." <i>If a child:</i> may have abdominal pain.	Looks sick. Fever of 101°+ oral. <i>Throat:</i> Red; tonsils swollen, may have white patches. <i>Neck:</i> Enlarged, tender lymph nodes at angle of jaw. Rash: • On neck, upper chest, abdomen, maybe whole body. • Red; may look like sunburn. • Pinpoint, raised; feels like sandpaper. • Lasts about 1 week; then skin may peel.

3.3 Include in your assessment that the problem is one of the following:

Skin infections caused by bacteria:

- **Red streak, or cellulitis** (Plan 4.1).
- **Infected wound** (Plan 4.2).
- **Abscess** (Plan 4.3).
- **Impetigo** (Plan 4.4).

Rashes and other skin problems:

- **Acne** (Plan 4.5).
- **Allergic reaction** (Plan 4.6).
- **Chicken pox** (Plan 4.7).
- **Dandruff** (Plan 4.8).
- **Dermatitis** (Plan 4.9).
- **Diaper rash** (Plan 4.10).
- **Fungus** (Plan 4.11).
- **Insect bites**, other than scabies or lice (Plan 4.12).
- **Lice** (Plan 4.13).
- **Scabies** (Plan 4.14).

- **Scarlet fever** (Plan: p.301, "Strep Throat").
- **Swelling of skin (edema) from unknown cause** (See p.27).
- **Warts** (Plan 4.15).
- **Other or unknown skin problem** (Plan 4.16).

4. Plan

4.1 Plan: Red Streak or Cellulitis

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.1.

Chart 4.1

Patient Education RED STREAK OR CELLULITIS

1. Activity: Little or none. Rest in bed until you are feeling better.
2. *If skin is broken*, you should wash the area well with soap and warm water, four times a day.
3. *If you have an inflamed area* (tender, warm, red, swollen), soak in warm, soapy water or apply warm wet cloths:
 - Soak a cloth in warm, soapy water.
 - Apply to skin. Cover with plastic wrap to keep in the heat.
 - Do this for 15 minutes, at least four times a day.

[3] Medicine should include one of the following antibiotics:

Give I.M. shot of **PROCAINE PENICILLIN** (Wycillin®).
 • **Give shot every 24 hours:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	150,000 Units
15-24 lbs.	4-17 mo.	300,000 Units
25-34 lbs.	18 mo. thru 3 yrs.	450,000 Units
35 lbs. or more	4 yrs. or more	600,000 Units

OR,
 If allergic to PENICILLIN:

Give **ERYTHROMYCIN** (200 mg./5 ml. suspension or 250 mg. tablets)
 • **Four times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	60 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80 mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

[4] Other plan may include additional patient education and medicine. Go to "4.17 Plan: General, For Most Skin Problems."

[5] Recheck as follows:

- Recheck at these times:
 - ☐ every 24 hours until OK.
 - ☐ before patient stops taking the antibiotic.
- Examine:
 - ☐ vital signs: T, P, R.
 - ☐ skin problem.
- *If patient is getting I.M. PENICILLIN shots, 24 hours after temperature is back to normal, switch to oral PENICILLIN, as follows:*

Give **PENICILLIN V** (250 mg./5 ml. suspension or 250 mg. tablets).
 • **Four times a day for a total of 10 days of antibiotic:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	50 mg. (1 cc.)
15-24 lbs.	4-17 mo.	75 mg. (1½ cc.)
25-34 lbs.	18 mo. thru 3 yrs.	125 mg. (2½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (4 cc.)
50 lbs. or more	7 yrs. or more	250 mg. (1 tablet)

4.2 Plan: Infected Wound.

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- *Always report if:*
 - ☐ infant.
 - ☐ wound occurred when working with sea mammal (such as seal or walrus), fish slime, or rabbit. These infections are often serious and difficult to treat.
 - ☐ wound was from human or animal bite. This patient needs transport to hospital.
 - ☐ patient looks sick.
 - ☐ you think wound is serious or large.

If you can NOT reach a doctor, follow this plan until you can.

[2] Wash and bandage the wound.

- Wash the wound well (p.344).
 - ☐ if wound has sutures (stitches), you may need to remove some or all of them, so wound can drain.
- Cover with a dry bandage.

[3] Medicine should include an antibiotic:

- If wound occurred when working with sea mammal (such as seal or walrus), fish slime, or rabbit, treat as follows:

Give **TETRACYCLINE** (250 mg. capsules or tablets).

- Do NOT give to:
 - ☐ pregnant woman.
 - ☐ child less than age 8.
- **Dose: 500 mg. (2 capsules or tablets) four times a day for 10 days.**

- *For other infected wounds, give one of the following antibiotics:*

Give **CLOXACILLIN** (Tegopen®; 125 mg./5 ml. suspension) OR **DICLOXACILLIN** (250 mg. capsules).

- **Four times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	100 mg. (4 cc.)
15-24 lbs.	4-17 mo.	175 mg. (7 cc.)
25-49 lbs.	18 mo. thru 6 yrs.	250 mg. (10 cc.)
50 lbs. or more	7 yrs. or more	250 mg. (1 capsule)

OR,
If allergic to PENICILLIN:

Give **ERYTHROMYCIN**
(200 mg./5 ml. suspension or
250 mg. tablets)
• **Four times a day for 10 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	60 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80 mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

[4] Patient education should include:
• Tell patient to wash the area well with soap and warm water, four times a day.

[5] Other plan may include the following:
• If patient has NOT had a TETANUS booster shot in the past 10 years:

Give I.M. booster shot of **TETANUS TOXOID and DIPHTHERIA (Td)**.
• **Dose: 0.5 cc. I.M.**

• Give additional patient education and medicine, as needed. Go to "4.17 Plan: General, For Most Skin Problems."

[6] Recheck as follows:
• Recheck at these times:
☐ in one day if patient looks sick or has fever 101° or more.
☐ in two days if patient is NOT feeling better, sooner if feeling worse.
☐ before patient stops taking the antibiotic.

- Examine:
☐ vital signs: T, P.
☐ skin problem.

4.3 Plan: Abscess

[1] Report to your referral doctor.
• While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.3.

Chart 4.3

Patient Education ABSCESS

1. Do NOT squeeze the abscess!
2. Apply heat (wet or dry), for 15 minutes, at least four times a day.
• For example, soak a cloth in warm, soapy water; apply to skin; cover with plastic wrap to keep in the heat.
3. See your CHA/P if the abscess drains.
4. Prevent spread of infection. Wash hands after touching the abscess area.

[3] Medicine should include one of the following antibiotics:

Give **CLOXACILLIN** (Tegopen®; 125 mg./5 ml. suspension) OR **DICLOXACILLIN** (250 mg. capsules).
• **Four times a day for 7 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	100 mg. (4 cc.)
15-24 lbs.	4-17 mo.	175 mg. (7 cc.)
25-49 lbs.	18 mo. thru 6 yrs.	250 mg. (10 cc.)
50 lbs. or more	7 yrs. or more	250 mg. (1 capsule)

OR,
If allergic to PENICILLIN:

Give **ERYTHROMYCIN**
(200 mg./5 ml. suspension or
250 mg. tablets)
• **Four times a day for 7 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	60 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80 mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

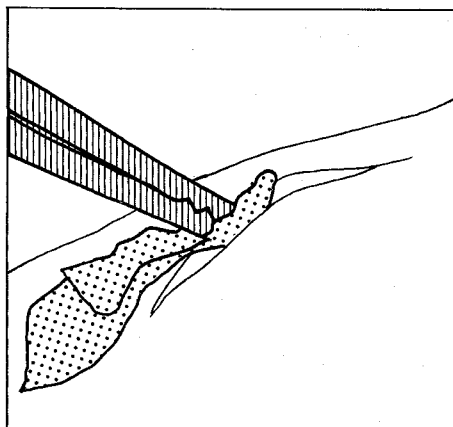
[4] Other plan may include additional patient education and medicine. Go to "4.17 Plan: General, For Most Skin Problems."

[5] Recheck as follows:
• Recheck at these times:
☐ every 24 hours until the abscess is healed.
☐ before patient stops taking the antibiotic.
• Examine:
☐ vital signs: T, P.
☐ abscess.

If abscess drains, do the following:

- Wear examination gloves.
- Remove as much of the pus as possible.
☐ wash out the abscess well. Use water with: POVIDONE-IODINE (Betadine®), HYDROGEN PEROXIDE, or soap.
☐ it may help to irrigate with a syringe.
- Place a piece of sterile gauze inside the abscess.
☐ use a hemostat, if needed.
☐ pack loosely.
☐ allow some gauze to stick out of the opening.

- ☐ when you do this the first time or two, it will be painful.
- ☐ this will allow the abscess to drain and heal.



Pack gauze loosely in abscess.

- Leave gauze inside the abscess, and cover with a loose bandage.
- Once a day repeat these steps until wound is completely healed.
 - ☐ do NOT let the abscess form a scab over the top. It needs to heal from the inside out.
- Teach the patient to do the same once a day at home. Give him the supplies he needs.

If abscess does NOT drain and the center becomes soft, white or yellow (from pus inside), report to your referral doctor. He may suggest that you open the abscess, as in chart 4.3.

Chart 4.3

TO OPEN AN ABSCESS

Note: Do this ONLY if your referral doctor agrees.

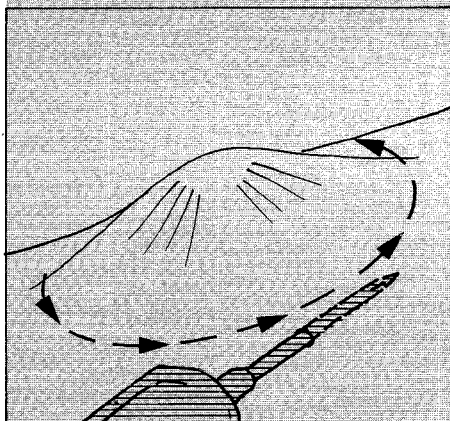
Equipment/supplies needed:
 POVIDONE-IODINE (Betadine®) or soap
 1% LIDOCAINE (Xylocaine®)
 5-10 cc. syringe
 25 gauge needle
 ALCOHOL wipe
 Sterile gloves
 Sterile scalpel blade
 Sterile hemostat
 Sterile gauze
 Bandage

1. Scrub the skin well with POVIDONE-IODINE and water or soap and water.
2. If possible, numb the skin.

Inject **LIDOCAINE** (Xylocaine®; 1% solution).

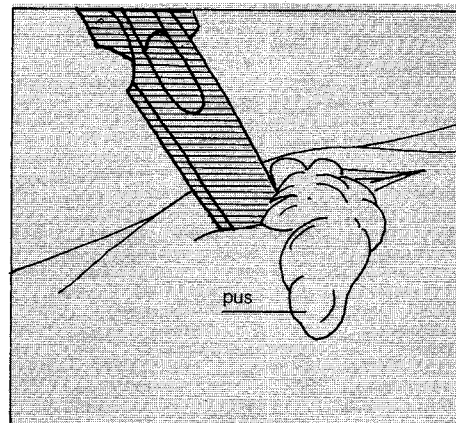
- Inject in a ring around the abscess, about 1 cm. away from the red edge.
- Do NOT inject any more than the following amount:

Weight	Approximate Age	Dose
Less than 11 lbs.	Less than 2 mo.	1 cc.
11-21 lbs.	2-11 mo.	2 cc.
22-31 lbs.	1-2 yrs.	4 cc.
32-44 lbs.	3-5 yrs.	6 cc.
45-59 lbs.	6-8 yrs.	8 cc.
60-89 lbs.	9-11 yrs.	12 cc.
90-109 lbs.	12-13 yrs.	16 cc.
110 lbs. or more	14 yrs. or more	20 cc.



Numb the skin.

3. Put on sterile gloves.
4. Use a sterile scalpel blade to make a cut into the abscess.
 - Cut across as much of the soft center as possible.



Open the abscess.

5. If the abscess is large, insert a sterile hemostat. Spread the hemostat to break up small collections of pus and allow better drainage.
6. Wash, pack, and bandage the abscess, the same as "if abscess drains."

4.4 Plan: Impetigo.

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- Always report if patient looks sick or has fever.
- While you are waiting to report, follow this plan.

[2] Medicine should include one of the following antibiotics:

Give I.M. shot of **BENZATHINE PENICILLIN** (Bicillin LA®).

- It lasts 3-4 weeks. **Give shot once:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	Consult doctor.
15-24 lbs.	4-17 mo.	300,000 Units
25-34 lbs.	18 mo. thru 3 yrs.	600,000 Units
35-49 lbs.	4-6 yrs.	900,000 Units
50 lbs. or more	7 yrs. or more	1,200,000 Units

OR,

If patient will NOT let you give him an injection:

Give **PENICILLIN V**

(250 mg./5 ml. suspension or 250 mg. tablets).

- **Four times a day for 10 full days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	50 mg. (1 cc.)
15-24 lbs.	4-17 mo.	75 mg. (1½ cc.)
25-34 lbs.	18 mo. thru 3 yrs.	125 mg. (2½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (4 cc.)
50 lbs. or more	7 yrs. or more	250 mg. (1 tablet)

OR,

If allergic to PENICILLIN:

Give **ERYTHROMYCIN**

(200 mg./5 ml. suspension or 250 mg. tablets)

- **Four times a day for 10 full days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	60 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80 mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

[3] Patient education should include the following:

- If taking an antibiotic by mouth, tell patient it is important to take it for 10 full days, to make sure that all of the bacteria are killed.
- Give information in chart 4.4.

Chart 4.4

Patient Education IMPETIGO

1. It is important for you to treat impetigo NOW.
 - Impetigo can quickly spread to other areas of the body or to other people.
 - Impetigo can cause serious kidney problems.
2. Every four hours, if awake, do the following:
 - Soak the sores with a warm, wet washcloth to loosen the crusts.
 - Wash the sores with soap and warm water. Try to remove the crusts.
3. Prevent the spread of impetigo:
 - Towels and bedding should be washed before others use them.
 - Other people in the home should:
 - ☐ wash well with soap, once a day.
 - ☐ see the CHA/P if sores develop.

[4] Other plan may include additional patient education and medicine. Go to "4.17 Plan: General, For Most Skin Problems."

[5] Recheck as follows:

- Recheck in five days, sooner if patient is feeling worse.
- Examine the skin. Often there is an underlying skin problem that may need care, such as eczema.
- *If infection is NOT getting better*, your referral doctor may suggest that you treat for staph bacteria with the same antibiotic used for treating an infected wound (Plan 4.2).

4.5 Acne

[1] Report to your referral doctor unless this is a mild case, with just a few blackheads or pimples.

- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.5.

Chart 4.5

Patient Education ACNE

1. Wash your face and other acne areas well, 3-4 times a day. This will help to remove extra oil that helps to cause acne.
2. Wash your scalp often.
3. Avoid skin or hair products that are waxy, oily, or greasy.
4. If you find that certain foods make your acne worse, avoid those foods.
5. Special diets, vitamins, or vaccines have NOT been shown to help.
6. It is best if you do NOT squeeze blackheads or pimples. Squeezing can spread infection and cause scarring.
7. See your CHA/P if you are getting worse instead of better. There is other treatment that can help.
8. For your mental health:
 - Stay active and healthy in general.
 - Talk to someone who will understand and support you.

[3] Recheck as follows:

- Recheck in two weeks, sooner if patient is getting worse.
- *If patient is NOT getting better*, your referral doctor may prescribe one or a combination of medicines, such as:
 - ☐ BENZOYL PEROXIDE, which helps to kill bacteria living in the skin.
 - ☐ TRETINOIN (Retin-A®), which helps to remove and prevent blackheads and pimples.

- ☐ TETRACYCLINE, ERYTHROMYCIN, or other antibiotic (by mouth or applied to skin) for treatment and prevention of pimples.

4.6 Plan: Allergic Reaction

[1] If severe allergic reaction with shortness of breath, wheezing, severe swelling, or shock, give emergency care. Now go to p.8.

[2] Report to your referral doctor, unless he has signed for you to treat recurrent allergic reactions without contacting him.

- *Always report if:*
 - ☐ patient had severe allergic reaction or looks sick.
 - ☐ this is first time patient has had this allergic reaction.
 - ☐ patient had allergic reaction to a drug. Doctor may suggest giving another drug.
- While you are waiting to report, follow this plan.

[3] Patient education should include information in chart 4.6.

Chart 4.6

Patient Education ALLERGIC REACTION

1. Stay away from what is causing the allergic reaction. If you do not know what is causing it, try to find out:
 - See if you have an allergic reaction after you have a new food or drug.
 - You may never find out.
2. Your doctor may have other more specific suggestions.
3. Tell every health care provider who treats you:
 - The name of any drug you are allergic to.
 - What your allergic reaction was.

[4] Medicine may include the following:

- *If needed for severe itching or hives:*

Give **DIPHENHYDRAMINE** (Benadryl®; 12.5 mg./5 ml. elixir or 25 mg. capsules).

- Patient may **repeat, if needed, every six hours**, as long as he has symptoms:

Weight	Approximate Age	Dose
Less than 22 lbs.	Less than 1 yr.	Consult doctor.
22-44 lbs.	1-5 yrs.	12.5 mg. (5 cc.)
45-89 lbs.	6-11 yrs.	25 mg. (1 capsule)
90 lbs. or more	12 yrs. or more	25-50 mg. (1-2 caps.)

- Do NOT give patient an injection of EPINEPHRINE if he has only rash and itching. EPINEPHRINE is used to treat severe allergic reaction with shortness of breath, severe swelling, or shock (p.8).
- *If patient had allergic reaction to PENICILLIN*, switch to ERYTHROMYCIN or another antibiotic. Do not use another "CILLIN" drug, however.
- *If allergy to insect sting/bites*, patient can prevent future problems:
 - ☐ insect repellent may help.
 - ☐ if patient had hives, the next reaction may be severe. Patient may need to carry his own EPINEPHERINE shot kit with him. Ask your referral doctor if this is needed.

[5] Other plan may include the following:

- Give additional patient education and medicine, as needed. Go to "4.17 Plan: General, For Most Skin Problems."
- *If your referral doctor agrees:*
 - ☐ label patient's chart with an allergy warning. Include: name of any drug patient is allergic to;

what the allergic reaction was.

- ☐ write this problem on patient's problem list.

[6] Recheck in one week, sooner if patient is getting worse.

4.7 Plan: Chicken Pox.

[1] Report to your referral doctor.

- While you are waiting to report, follow this plan.

[2] Patient education and medicine should include what is in chart 4.7.

Chart 4.7

Patient Education CHICKEN POX

1. Stay at home, away from children, until crusts have fallen off.
2. To prevent itching, and to help dry the blisters, try the following:
 - Apply CALAMINE LOTION to sores that itch, 3-4 times a day.
 - *For sores around the mouth or genitals*, apply wet cloths:
 - ☐ dip cloth in cool water.
 - ☐ apply. If possible, change cloth every 5-10 minutes.
 - ☐ do this for 10-20 minutes, 4-6 times a day.

[3] Other plan may include additional patient education and medicine. Go to "4.17 Plan: General, For Most Skin Problems."

[4] Recheck as follows:

- Recheck in one week, sooner if patient is feeling worse.
- Examine sores.

4.8 Dandruff

[1] Report to your referral doctor only if patient has rash that seems severe or if skin is infected (getting more tender, warm, red, swollen; pus seen; enlarged, tender lymph nodes).

- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.8.

Chart 4.8

Patient Education DANDRUFF

1. What is dandruff?
 - It is dry, flaky skin on the scalp.
 - ☐ your eyebrows, face, chest, and body creases may be involved; your skin may itch, look pink and greasy. This is called "seborrheic dermatitis."
 - On an infant it is called "cradle cap." It usually goes away within 2-3 months.
 - On an adult, it may NOT go away, but you can help to keep it under control.
2. It is important to shampoo the scalp:
 - Use a dandruff shampoo, as directed. Usually you should shampoo at these times:
 - ☐ once a day for 2-3 days, until skin is OK.
 - ☐ 1-2 times a week, more often as needed to control flaky skin.
 - If other areas of your body are involved, often those areas will be OK if your scalp is treated.
3. See your CHA/P if you are getting worse instead of better. There is other treatment that may help.

[3] Recheck as follows:

- Recheck in one week, sooner if patient is getting worse.
- *If patient is NOT getting better*, if your referral doctor thinks the assessment is seborrheic dermatitis, he may prescribe:
 - ☐ a different shampoo.
 - ☐ steroid medicine such as HYDROCORTISONE.

4.9 Plan: Dermatitis.

[1] If irritating chemical is on skin, wash it off with soap and lots of water.

[2] Report to your referral doctor, unless he has signed for you to treat

recurrent dermatitis without contacting him.

- *Always report if:*
 - ☐ this is first time patient has ever had dermatitis.
 - ☐ patient looks sick or has fever.
 - ☐ rash is severe.
 - ☐ skin is infected (getting more tender, warm, red, swollen; pus seen; enlarged, tender lymph nodes).
- While you are waiting to report, follow this plan.

[3] If skin is infected, give an antibiotic:

- If you can NOT reach a doctor, in most cases you should follow the plan for Impetigo (Plan 4.4).

[4] Patient education and medicine should include the following:

- Give information/medicine in chart 4.9.

Chart 4.9

Patient Education DERMATITIS

1. There may be no cure or treatment that will make this problem go away forever, but there are some things you can do that will help.
2. When skin is wet, dry it; when it is dry, wet it!
 - If there are tiny blisters, or if the rash is wet, oozing, you should dry that area:
 - ☐ apply wet cloths:
 - dip cloth in cool water. If available, use BUROW'S SOLUTION instead of plain water.
 - apply to skin. If possible, change cloth every 5-10 minutes.
 - apply for 10-20 minutes, 2-6 times a day.
 - ☐ CALAMINE LOTION or other treatment may be recommended.
 - As your skin is healing, it starts to dry. You should keep that area moist:
 - ☐ soak the dry area in water.

- ☐ immediately after soaking, apply PETROLEUM JELLY (Vaseline®), BABY OIL, or other medicine prescribed to keep in the moisture.
- ☐ repeat as often as you need to, to keep your skin soft and moist.

3. You may be given a steroid medicine (such as HYDROCORTISONE) to apply as directed. If so, do NOT use on infected skin (pus seen).

4. Prevent irritation and drying:

- Avoid most soaps, detergents, and very hot water.
- Avoid foods, clothing, or other things that seem to make it worse.
- If necessary to touch these things, use plastic (not rubber) gloves.
- For washing:
 - ☐ use plain water. Soap dries the skin. Add soap only if the skin is getting infected.
 - ☐ let your skin dry in the air or pat it dry. Do NOT rub it dry with a towel.

- *If skin is inflamed* (tender, warm, red, swollen):

Give **HYDROCORTISONE** or other steroid cream or ointment prescribed.

- Do NOT give if skin is infected (pus seen).
- Patient should put a small amount on the rash and gently rub it in.
- If the rash is severe, tell patient to cover the area with plastic wrap at bedtime, after putting on the medicine.
- Repeat **3-4 times a day until inflammation is gone** (no longer tender, warm, red, swollen).

[5] Other plan may include additional patient education and medicine. Go to "4.17 Plan: General, For Most Skin Problems."

[6] Recheck as follows:

- Recheck at these times:
 - ☐ in one day if patient looks sick or has fever.
 - ☐ in 2-3 days, sooner if patient is feeling worse.
 - ☐ in one week.
- Examine:
 - ☐ vital signs: T, P.
 - ☐ skin problem.
- *If patient is NOT getting better*, your referral doctor may suggest other treatment, such as stronger steroid medicine (applied to skin or taken by mouth).

4.10 Plan: Diaper Rash.

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- *Always report if:*
 - ☐ child looks sick or has fever.
 - ☐ diaper rash is severe.
 - ☐ skin is infected (getting more tender, warm, red, swollen; pus seen; enlarged, tender lymph nodes).
- While you are waiting to report, follow this plan.

[2] If rash is mainly in exposed areas treat for urine irritation:

- Patient education should include information in chart 4.10 [2].
- Medicine, if rash is severe:

Give **HYRDOCORTISONE** or other steroid cream or ointment prescribed.

- Do NOT use steroid medicine on infected skin (pus seen).
- Parent should put a small amount on the rash and gently rub it in.
- Repeat **3-4 times a day until inflammation is gone** (no longer tender, warm, red, swollen).

[3] If rash is mainly in skin folds, treat for yeast infection:

- Patient education should include information in chart 4.10 [3].
- Check mouth for yeast infection (white patches on mucous membranes). If present, also treat for thrush (p.228).

- Medicine should include something to kill yeast:

Give **CLOTRIMAZOLE**

(Lotrimin®) cream or **NYSTATIN** (Mycostatin®, Nilstat®) cream:

- Parent should first wash and dry the rash well.
- Apply cream **four times a day and continue for 1 week after rash is gone.**

[4] Other plan may include additional patient education and medicine. Go to "4.17 Plan: General, For Most Skin Problems."

[5] Recheck as follows:

- Recheck in three days, sooner if patient is getting worse.
- Examine rash.

Chart 4.10 [2]

**Patient Education
DIAPER RASH IN
EXPOSED AREAS**

1. This is probably caused by a damp diaper being next to the skin.
 - Bacteria act on the urine to form ammonia. Ammonia burns the skin.
2. Leave the diaper off for as long as possible.
3. Change the diaper often. If the rash is severe or lasts for a long time, use disposable diapers.
4. With every diaper change, wash with plain water. Do NOT use soap every time unless skin is infected. Soap can dry and irritate the skin.
5. After washing, apply some ointment to keep the urine from touching the skin. Use **PETROLATUM** (Vaseline®), **A & D OINTMENT**, or something similar.

Chart 4.10 [3]

**Patient Education
DIAPER RASH IN SKIN FOLDS**

Yeast grows where it is moist, so be sure to keep the genital area dry:

1. Leave the diaper off for as long as possible.
2. Change the diaper often.
3. With every diaper change, wash with plain water. Do NOT use soap every time unless skin is infected. Soap can irritate the skin.
4. After washing:
 - Let skin dry well in the air or pat it dry.
 - Apply medicine to kill yeast, as directed.
5. Avoid plastic pants.

4.11 Plan: Fungus.

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- *Always report if* fungus is on scalp.
- While you are waiting to report, follow this plan.

[2] Patient education should include information in chart 4.11.

Chart 4.11

**Patient Education
FUNGUS**

1. Wash the sores well once a day with soap and water.
2. Fungus grows where it is moist, so be sure to keep the area dry:
 - After washing, dry your skin well.
 - Avoid tight fitting clothes.
 - *If you have athlete's foot:*
 - ☐ wear shoes that let air in.
 - ☐ wear cotton socks and change them at least once a day.
3. *If you have fungus of the scalp*, clip the hair short near the sores.
4. Prevent the spread of fungus: Wash your dirty clothes well in hot water.

[3] Medicine should include the following:

Give **CLOTRIMAZOLE** (Lotrimin®, Gyne-Lotrimin®), **TOLNAFTATE** (Tinactin®), or other fungus medicine prescribed by the doctor.
Patient should:

- **Apply two times a day for at least four weeks.**
- Continue for 1-2 weeks after skin is OK.

[4] Recheck as follows:

- Recheck in one week, sooner if patient is getting worse.
- Examine sores.
- *If patient is NOT getting better, your referral doctor may think that:*
 - ☐ another medicine is needed, or
 - ☐ this may NOT be a fungus infection.

4.12 Plan: Insect Bites

[1] If allergic reaction, do the following:

- If severe allergic reaction, with shortness of breath, severe swelling, or shock, give emergency care. Now go to p.8.
- *If hives*, now go to "4.6 Plan: Allergic Reaction."

[2] Report to your referral doctor only if problem is severe or if skin is infected (getting more tender, warm, red, swollen; pus seen; enlarged, tender lymph nodes).

- While you are waiting to report, follow this plan.

[3] Patient education and medicine should include what is in chart 4.12.

[4] Other plan may include additional patient education and medicine. Go to "4.17 Plan: General, For Most Skin Problems."

[5] Recheck only if needed. Tell patient to return to clinic in 2-3 days, IF NOT feeling better, sooner if feeling worse.

Chart 4.12

Patient Education INSECT BITES

1. *If your skin itches or burns*, it may help to:
 - Apply wet cloths: Dip cloth in cool water. Apply for ten minutes. Repeat as needed.
 - If wet cloths do NOT help enough, ask your CHA/P for some CALAMINE LOTION. Apply to bites that itch, 3-4 times a day.
2. Try to prevent insect bites. Use insect repellent.

4.13 Plan: Lice

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

- *Always report if skin is infected* (getting more tender, warm, red, swollen; pus seen; enlarged, tender lymph nodes).
- While you are waiting to report, follow this plan.

[2] Patient education and medicine should include the following:

- Give information/medicine in chart 4.13.
- If LINDANE (Gamene®, Kwell®) shampoo is NOT available, use the same medicine used for treating scabies (Chart 4.14).

[3] Other plan may include additional patient education and medicine. Go to "4.17 Plan: General, For Most Skin Problems."

[4] Recheck as follows:

- Recheck in one week.
- Examine carefully for lice and nits (eggs). Often the nits stay attached but are dead.
- *If you still see live lice* or new nits (where the hair meets the skin), use medicine a second time.

Chart 4.13

Patient Education LICE

1. Use LINDANE (Gamene®, Kwell®) shampoo to kill the lice:
 - Take a bath or shower.
 - Apply 3-4 Tablespoons of shampoo, and lather well for at least four minutes. *If you have pubic (genital) lice*, apply the shampoo to all of your skin from your chest to your knees.
 - Rinse well, and dry with a towel.
2. After washing off the medicine, when your hair is dry, remove nits (tiny eggs) with a fine-toothed comb or tweezers, if possible.
3. *If you have lice on the eyelashes:*
 - Apply PETROLATUM (Vaseline®) two times a day for eight days.
 - Try to pull off the nits (tiny eggs).
4. *If you have pubic (genital) lice or body lice*, after rinsing off the medicine, put on clean clothes and wash clothing and bedding you have used during the past two weeks.
 - Heat helps to kill the lice:
 - ☐ use hot, soapy water, or
 - ☐ put in hot clothes dryer for 20 minutes.
 - If this is NOT possible, it may help to hang the clothing and bedding outside for 24-48 hours, especially in below zero temperatures.
5. Every person in the family and sex partners of people with lice should be examined. Those with lice should be treated as soon as possible.
6. Prevent the spread of lice:
 - Treat your combs and brushes:
 - ☐ soak them for one hour in a mixture of water and LINDANE (Gamene®, Kwell®) shampoo or in Lysol® solution.
 - ☐ or put them in hot water (near boiling) for 5-10 minutes.
 - Do NOT share combs or brushes.

4.14 Plan: Scabies

[1] Report to your referral doctor, unless he has signed for you to treat this problem without contacting him.

• *Always report if:*

- ☐ rash is severe.
- ☐ skin is infected (getting more tender, warm, red, swollen; pus seen; enlarged, tender lymph nodes).

• While you are waiting to report, follow this plan.

[2] If skin is infected, do the following:

- *First treat with antibiotic as in "4.4 Plan: Impetigo."*
- Do NOT treat patient with medicine for scabies until the infection is healed.

[3] Patient education and medicine should include what is in chart 4.14.

Chart 4.14

Patient Education SCABIES

1. *For infant or pregnant woman*, use CROTAMITON (Eurax®) cream or lotion to kill the scabies mite:
 - Take a bath or shower.
 - Apply a thin layer of medicine to your skin from the neck down.
 - ☐ pay close attention to the areas between the fingers and toes, wrists, elbows, buttocks, and sex organs.
 - ☐ rub in completely.
 - In 24 hours, apply the medicine a second time.
 - Leave the medicine on for 24 hours after the second application. Then, wash it off and rinse well.
2. *Other patients* should use LINDANE (Gamene®, Kwell®) lotion to kill the scabies mite:
 - Take a bath or shower.
 - Dry well, and let the skin cool before applying medicine.
 - Apply a thin layer of medicine to your skin from the neck down.
 - ☐ adult should use up to 1 oz. (½ of a 2 oz. bottle).

- ☐ child should use up to ½ oz. (¼ of a 2 oz. bottle).
 - ☐ pay close attention to the areas between the fingers and toes, wrists, elbows, buttocks, and sex organs.
 - ☐ rub in completely.
 - Leave the medicine on for 8-12 hours. Then, wash it off and rinse well.
3. After washing off the medicine, put on clean clothes and wash the clothing and bedding you have used recently.
 - Heat helps to kill scabies:
 - ☐ use hot, soapy water, or
 - ☐ put in a hot clothes dryer for 20 minutes.
 - If this is NOT possible, it will help to hang the clothing and bedding outside for 24-48 hours, especially in below zero temperatures.
 4. Every person in the family and sex partners of people with scabies should be treated at the same time.
 5. It is normal to continue itching for a while after using the medicine.
 - Do NOT repeat the treatment without checking with your CHA/P first.
 6. Prevent the spread of scabies:
 - Keep children with scabies sores home from school until they have washed off the medicine.
 - Bathe as often as possible.

[4] Other plan may include additional patient education and medicine. Go to "4.17 Plan: General, For Most Skin Problems."

[5] Recheck as follows:

- Recheck in one week, sooner if patient is getting worse.
- Examine rash.
- *If itching continues*, report to your referral doctor. It may be from:
 - ☐ continued infection. The doctor may want you to repeat the treatment one time.
 - ☐ allergic reaction to the scabies mite.

4.15 Plan: Warts

[1] Patient education should include information in chart 4.15.

Chart 4.15

Patient Education WARTS

1. Warts are growths that are caused by a virus.
2. A wart should go away without treatment within 1-2 years.
3. If wart is on the bottom of your foot and is painful, it helps to file the wart until it is flat. Repeat, when needed.
4. Your doctor may suggest other treatment, if:
 - You are worried about your appearance.
 - Because of their location, warts are:
 - ☐ spreading a lot (Example: on fingertips).
 - ☐ painful (Example: on bottom of foot)
5. Other treatment may include:
 - Applying a wart medicine to dissolve the warts.
 - Going to the hospital where special equipment may be used to remove the warts by electricity or freezing.

[2] Report to your referral doctor only if warts are large or painful, or if patient wants to have them removed.

[3] Recheck as follows:

- Recheck only if needed. Tell patient to return to clinic if warts are getting worse.
- Examine warts.
- Report to your referral doctor.

4.16 Plan: Other or Unknown Skin Problem

[1] Report to your referral doctor.

- There are many kinds of skin problems. First describe the problem to yourself. Next, report *exactly* what you saw and felt.
- If you can NOT reach a doctor**, follow this plan until you can.

[2] Patient education and medicine may include the following:

- If skin has tiny blisters, is wet or oozing, patient should dry that area:
 - ☐ apply wet cloths:
 - dip cloth in cool water. If severe, it may help to use BUROW'S SOLUTION instead of plain water.
 - apply to skin. If possible, change cloth every 5-10 minutes.
 - apply for 10-20 minutes, 2-6 times a day.
 - ☐ CALAMINE LOTION or other treatment may be recommended.
- If skin is dry, patient should keep that area moist:
 - ☐ soak the dry area in water.
 - ☐ immediately after soaking, apply PETROLEUM JELLY (Vaseline®), BABY OIL, or other medicine prescribed to keep in the moisture.
 - ☐ repeat as often as needed, to keep skin soft and moist.

[3] Other plan may include additional patient education and medicine. Go to "4.17 Plan: General, For Most Skin Problems."

[4] Recheck as follows:

- Recheck at these times:
 - ☐ in one day if patient looks sick or has fever.
 - ☐ in 2-3 days, sooner if patient is feeling worse.
 - ☐ in one week.
- Examine:
 - ☐ vital signs: T, P.
 - ☐ skin problem.

4.17 Plan: General, For Most Skin Problems

[1] First, follow the specific plan above for your assessment.

[2] Patient education should include the following:

- If needed, get patient education handouts from your referral hospital or other sources. There are many good ones available for skin problems.
- Give information that applies in chart 4.17.

Chart 4.17

**Patient Education
GENERAL CARE OF
A SKIN PROBLEM**

1. Activity: Rest in bed if you feel sick or have fever.
2. If your skin itches:
 - If the skin problem has recently broken out, it may help to apply wet cloths: Dip cloth in cool water. Apply for ten minutes, 4-6 times a day.
 - If itching is all over the body, it may help to take a CORNSTARCH or OATMEAL bath:
 - ☐ add 1 cup of CORNSTARCH or 2 cups of OATMEAL to a tub of warm water (NOT hot water; body temperature is good).
 - ☐ bathe in this for 10-15 minutes.
 - ☐ repeat if needed, up to 4 times a day.
 - Avoid scratching, to help prevent infection, spread of infection, and scarring. For a child:
 - ☐ keep his fingernails cut short.
 - ☐ wash his hands often.
 - ☐ have him wear cotton gloves or socks on his hands, if needed.
3. If an arm or leg is swollen, raise it up higher than the rest of the body.
4. Protect your skin:
 - Avoid things that irritate your skin.
 - If needed, use a sunscreen to prevent sunburn.
5. When your skin is healed, prevent dry skin:
 - Do NOT wash your skin much, unless you have been advised to, for your skin problem. Soap OR water dries out the skin.
 - When you do wash:
 - ☐ use plain water on areas that are not dirty.
 - ☐ use soap and water in the body creases.

☐ use a mild soap, such as Dove®.

- After washing, put on PETROLEUM JELLY (Vaseline®) BABY OIL, or other medicine prescribed to keep in the moisture.

6. See your CHA/P if you have danger signs of infection: getting more tender, warm, red, swollen, pus seen.

[3] Medicine may include the following:

- If skin problem is getting infected (getting more tender, warm, red, swollen; pus seen; enlarged, tender lymph nodes), give an antibiotic. If you can NOT reach a doctor:
 - ☐ in most cases, you should follow the plan for Impetigo (Plan 4.4).
 - ☐ if there is a lot of pus, follow the plan for Infected Wound (Plan 4.2).
- If needed for severe itching or hives:

Give **DIPHENHYDRAMINE** (Benadryl®; 12.5 mg./5 ml. elixir or 25 mg. capsules).

- Patient may **repeat, if needed, every six hours**, as long as he has symptoms:

Weight	Approximate Age	Dose
Less than 22 lbs.	Less than 1 yr.	Consult doctor.
22-44 lbs.	1-5 yrs.	12.5 mg. (5 cc.)
45-89 lbs.	6-11 yrs.	25 mg. (1 capsule)
90 lbs. or more	12 yrs. or more	25-50 mg. (1-2 caps.)

- If needed for pain:
 - ☐ give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ if pain is severe and you can NOT reach a doctor, give ASPIRIN or ACETAMINOPHEN with CODEINE (p.416).

BURNS

1. Begin Emergency Care

1.1 If you are at the scene of an accident, you may need to remove the patient from harm or stop the burning process:

- If electrical burn:
 - ☐ always turn the current off or use a stick to get the electrical wire away *before* you touch patient.
 - ☐ be ready to do CPR! An electric shock can cause cardiac arrest.
- If chemical burn, have a helper immediately begin to flood the burn with lots of water and continue for at least 15-30 minutes (see plan 5.1).
 - ☐ if chemical is in eye, now go to the plan on p.99.
- If you see flames, smother them or spray with water.
- If you see steaming, hot, wet clothing, have a helper pour on cool water.

1.2 Check ABC's as soon as possible: Airway, Breathing, Circulation.

1.3 Control severe bleeding.

1.4 Prevent shock:

- Patient should lie down.
- Keep patient warm.

1.5 Check vital signs: P, R, BP.

- If shock (weak, fast pulse; low BP), now go to p.7.

- ☐ use LACTATED RINGERS for I.V. fluid. Plan NOT to use I.V. fluid with DEXTROSE (in a burn patient, it may cause problems with the blood cells).

- If severe burn, plan to have helper recheck vital signs at least every 15-30 minutes.

1.6 Give OXYGEN if needed (if patient breathed in smoke or is short of breath).

- Follow guidelines on p.435.

1.7 While you get history and examine, a helper could do the following:

- First, treat serious injuries. Example: splint a broken bone.
- Begin to cool burns caused by heat:
 - ☐ for burns with no blisters (first-degree), see plan 5.3.
 - ☐ for other heat burns (second or third-degree), see plan 5.4.

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Exactly what happened?

- What caused the burn?
- If fire caused it, did patient breathe in any smoke? Did it happen in an enclosed area?
- If a chemical burn, what was the chemical?
 - ☐ battery acid?
 - ☐ toilet bowl cleaner?
 - ☐ gasoline?
 - ☐ oven cleaner?
 - ☐ Drano®?
 - ☐ ammonia?
 - ☐ if needed, have a helper get the chemical's container. You will need to report the name. Some chemicals can be absorbed through the skin causing liver or kidney damage.
- Was the accident related to alcohol or other drugs?

[2] Where is patient burned?

[3] Does patient have other injuries?

[4] Does patient have any other complaints, such as:

- Severe pain?
- Symptoms of shock: feeling weak, tired?
- Coughing? If coughing up sputum, what does it look like?
 - ☐ black sputum means respiratory damage.
- Shortness of breath?
- Nausea or vomiting?

2.2 Past Health History

[1] Illnesses?

[2] What medicines is patient taking now?

[3] Allergies?

[4] When was last TETANUS shot?

3. Exam

3.1 Repeat vital signs: P, R, BP.

3.2 Do a body survey (p.9).

Especially check:

- Mouth, nose, and throat for burns.
- Breath sounds.

3.3 Examine the burn.

- Where exactly is the burn?
- Decide how deep the burn is:
 - ☐ no blisters (first-degree).
 - ☐ blisters or deeper (second or third-degree).
 - ☐ if needed, use information on p.334.
- If *electrical burn*, look for at least 2 burns:
 - ☐ there will be a small entrance wound where the electricity entered the body.
 - ☐ there will be one or more wounds where the electricity left the body.

3.4 If the burn is large, decide what percent of the skin is burned. Use the information on p.334.

4. Assessment

4.1 Your assessment should be: **Burn.**

4.2 Include in your assessment that the burn is one of the following:

- **Chemical burn** (Plan 5.1).
- **Electrical burn** (Plan 5.2).
- **Heat burn:**
 - ☐ **heat burn with no blisters (first-degree)** (Plan 5.3).
 - ☐ **other heat burn (second or third-degree)** (Plan 5.4).

5. Plan

5.1 Plan: Chemical Burn

[1] **Flood with water** immediately:

- Use a *gentle* stream of plain water, so you do NOT injure skin more.
 - ☐ use a shower, faucet, or have a helper keep refilling water bottles as you irrigate.
- Avoid *more* damage:
 - ☐ patient should tilt his body so that the chemical and water will run off, not onto other parts of his body.

- ☐ do NOT get the chemical on you. As soon as you have cared for patient, change your clothing if it has chemical on it.
- If chemical is in eye, be sure to follow the plan on p.99.
- Continue flooding the skin while you or a helper:
 - ☐ remove all clothing.
 - ☐ remove jewelry (rings, bracelets) to prevent damage if hand swells.

[2] Report NOW to your referral doctor. Have a helper continue to flood the skin while you contact the doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.
- If you think patient needs care at the hospital, have someone arrange for transport.

[3] Continue to flood with water as follows:

- For most chemicals, such as acids, if you can NOT reach the doctor, flood for at least 15-30 minutes after clothing is off. Patient should state that the burning has stopped.
- If the chemical is alkali such as lye, lime (plaster of paris), ammonia, or Drano® (sodium hydroxide):
 - ☐ flood for at least 30-60 minutes after clothing is off.
 - ☐ try again to contact a doctor. He may tell you to flood for a longer time.

[4] Other plan. Treat the same as for heat burns:

- ☐ for minor burns with no blisters, now go to plan 5.3. Follow parts of that plan which apply.
- ☐ for more serious burns, treat the same as for second or third-degree heat burns. Now go to plan 5.4. Follow parts of that plan which apply.

5.2 Plan: Electrical Burn

Burns caused by electricity can be severe, even though the skin may not look like it is hurt much.

- Electricity does much damage to nerves and blood vessels along its path.

[1] Report NOW to your referral doctor.

If you can NOT reach a doctor:

- Follow this plan until you can.
- Arrange for transport to hospital, unless the injury is very minor. Most patients with electrical burns need hospital care, possibly surgery.
- Do not cool an electrical burn. Otherwise, treat the same as for second or third-degree heat burns. Now go to plan 5.4. Follow parts of that plan which apply.

5.3 Plan: Heat Burn With No Blisters (First Degree)

[1] Cool most burns soon after injury, to reduce pain and tissue damage.

- Do NOT cool if patient is cold or in shock.
- Do NOT cool large areas of the body (burns that involve more than 20% of skin). This may cause hypothermia.
- Use plain, cool water.
 - ☐ NEVER add ice to salt water (saline). The water becomes too cold and can cause frostbite.
- Place the burned part in cool water or apply cold, wet cloths.
- Cool for about 5 minutes.
- While you are cooling, remove jewelry (rings, bracelets) to prevent damage if hand swells.

[2] Report to your referral doctor unless he has signed for you to treat minor burns without contacting him.

- *Always report if* the burn is large or seems severe.
- While you are waiting to report, follow this plan.

[3] Other plan may include the following:

- If burn is on an arm or leg, patient should elevate it above the level of his heart, to reduce swelling and pain.
- If needed, for pain, give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).

- Usually no other treatment is needed for a minor burn that does not form blisters.

- ☐ you may decide to apply a thin layer of SILVER SULFADIAZINE (Silvadene®) or PETROLEUM JELLY (Vaseline®), if it feels better to patient.
- When the time is right, talk about burn/accident prevention. *If problem is related to alcohol or other drug abuse:*
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.
- Recheck only if needed. Tell patient to return to clinic if the burn is getting worse instead of better.

5.4 Plan: Other Heat Burn (Second or Third-Degree)

[1] Begin wound care as follows:

- Remove jewelry (rings, bracelets) to prevent damage if hand swells.
- Cut away burned clothing.
 - ☐ if an area of clothing is stuck to the skin, cut around it.
- Try NOT to break blisters. Blisters help to prevent infection.

[2] Cool most burns soon after injury, to reduce pain and tissue damage.

- Do NOT cool if patient is cold or in shock.
- Do NOT cool large areas of the body (burns that involve more than 20% of skin). This may cause hypothermia.
- Use plain, cool water.
 - ☐ NEVER add ice to salt water (saline). The water becomes too cold and can cause frostbite.
- Place the burned part in cool water; or wash hands well, put on sterile gloves, and apply cool, wet gauze.
- Cool for about 5 minutes.

[3] Report to your referral doctor.

- Report NOW unless patient only has

second degree burns (blisters) that are small:

- ☐ under age 2 or over age 40: less than 5% of the skin.
- ☐ older child and young adult: less than 10% of the skin.

If you can NOT reach a doctor:

- Follow this plan until you can.
- Have someone arrange for transport to hospital if burn is severe. This includes the following:
 - ☐ second degree burns (blisters) on the *face, neck, hands, feet, or genitals*. These are small but important areas.
 - ☐ second degree burn that goes all the way around an arm or leg (circumferential burn).
 - ☐ large second degree burns in any area.
 - ☐ all third-degree burns.
 - ☐ signs of respiratory damage, such as shortness of breath, hoarse voice, mouth burns, coughing black sputum.
 - ☐ burns along with a broken bone or other serious injury.

[4] Apply a dressing as follows:

- For most burns, apply a dry sterile dressing and bandage.
 - ☐ in an emergency, use a clean, dry sheet.
 - ☐ do NOT apply butter, shortening, or other grease.
- If burns are near a joint (knuckle, armpit, others), protect the skin: Apply sterile 4x4's with SILVER SULFADIAZINE (Silvadene®) or other antibiotic/burn cream (as on p.439).
 - ☐ be sure to place 4x4's between two burned areas that may touch. This will help to keep the skin from breaking down and growing together.
- If a blister breaks:
 - ☐ put on sterile gloves.
 - ☐ use a sterile forceps and scissors (boil for 20 minutes) to cut away loose skin.
 - ☐ apply sterile 4x4's with SILVER SULFADIAZINE (Silvadene®) or other antibiotic/burn cream (as on p.439).

[5] If burns are severe, while you are waiting to transport, your plan should include the following:

- Diet: Nothing by mouth.
- Start an I.V. (p.427).
 - ☐ use LACTATED RINGERS I.V. fluid. Plan NOT to use I.V. fluid with DEXTROSE (in a burn patient, it may cause problems with the blood cells).
 - ☐ run it at a "maintenance rate" (p.434), until your doctor tells you a different rate or patient goes into shock.
- If you can NOT start an I.V., and transport is delayed, it may be possible to replace some fluid by mouth. Patient must be awake and not vomiting.
 - ☐ patient should drink *small* sips of clear liquids as often as possible. Give ORAL REHYDRATION SALTS or other clear liquids, the same as suggested for vomiting or diarrhea in a baby (p.74).
- Recheck vital signs at least every 15-30 minutes (P, R, BP).
- Pain control:
 - ☐ reassure patient.
 - ☐ cover burns well, to lessen air movement over burn.
 - ☐ if burn is on an arm or leg, elevate it above the level of patient's heart.
 - ☐ if pain is severe, you can NOT reach a doctor, and patient is NOT in shock, give an I.M. shot of MEPERIDINE (Demerol®) or MORPHINE (p.417).
- If patient has NOT had a TETANUS booster shot in the past 10 years:

Give I.M. booster shot of **TETANUS TOXOID and DIPHTHERIA (Td)**
 • **Dose: 0.5 cc. I.M.**

- If patient has third degree burns, your referral doctor may suggest that you give an antibiotic:

I.M. shot of **PROCAINE PENICILLIN** (Wycillin®).
 • Plan to give shot every 24 hours:

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	150,000 Units
15-24 lbs.	4-17 mo.	300,000 Units
25-34 lbs.	18 mo. thru 3 yrs.	450,000 Units
35 lbs. or more	4 yrs. or more	600,000 Units

OR if allergic to PENICILLIN:

ERYTHROMYCIN

(200 mg./5 ml. suspension or 250 mg. tablets)

- **Four times a day:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	60 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80 mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

[6] If burns are NOT severe, your plan should include the following:

- Pain control:
 - ☐ reassure patient.
 - ☐ tell patient to cover burns well, to lessen air movement over burn.
 - ☐ if burn is on an arm or leg, patient should elevate it above the level of his heart.
 - ☐ if needed, give ASPIRIN OR ACETAMINOPHEN (Tylenol®) (p.416).
 - ☐ if pain is severe and you can NOT reach a doctor, give ASPIRIN or ACETAMINOPHEN with CODEINE (p.416).

- Other patient education:
 - ☐ rest the injured part.
 - ☐ keep the burn dry.
 - ☐ do NOT break blisters.
- If patient has NOT had a TETANUS booster shot in the past 10 years:

Give I.M. booster shot of **TETANUS TOXOID and DIPHTHERIA (Td)**

- **Dose: 0.5 cc. I.M.**

[7] Recheck as follows:

- Recheck at these times:
 - ☐ in one day, sooner if dressings become wet from burn drainage.
 - ☐ once a day until burn is healed.
- Examine:
 - ☐ temperature.
 - ☐ burn.
- Beginning one day after the accident, for all second and third-degree burns, apply a dressing of sterile 4x4's with SILVER SULFADIAZINE (Silvadene®) or other antibiotic/burn cream (as on p.439).
- Dressings should be changed twice a day, more often if they become wet from burn drainage.
 - ☐ you should do one of those dressing changes.
 - ☐ teach patient or family member how to do the other changes at home.
- *If burn is getting infected, (fever; getting more tender, warm, red, swollen; pus seen), treat as on p.321, "Infected Wound."*
- When the time is right, talk about burn/accident prevention. *If problem is related to alcohol or other drug abuse:*
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

Burns: General Information

Most burns are caused by heat, chemicals, or electricity. The important things you should examine and report about a burn are:

- How deep it is (thickness, degree).

- The place on the body that is burned.
- The percent (amount) of skin that is burned.

Deciding How Deep a Burn Is (Degree of a Burn)

Use the following information to help you decide:

First-degree burn. This burn is not very deep.

- *It only makes the skin red.*
- It usually hurts but is not very serious.
- It heals in 4-7 days. The top layer of skin may peel as it heals.
- Example: mild sunburn.

Second-degree burn (partial thickness). This burn goes deeper into the skin than the first degree burn.

- Often it is caused by hot liquids.
- *It causes blisters.*
- It usually hurts much more than a first degree burn.
- It heals in 2-3 weeks, unless it gets infected.

Third-degree burn (full thickness).

This burn is deeper than the other two.

- The burn goes through the full thickness of the skin. It may go deeper, into muscle and bone.
- The skin may look charred or cooked. The burn may be black, brown, white, gray, or red.
- The center of the burn does NOT hurt, because the nerves in the skin have been killed.
 - ☐ you can pull hairs out of the skin without causing pain.
 - ☐ the *edges* of the burn may be very painful, however.
- It heals very slowly or needs skin grafting (surgery).

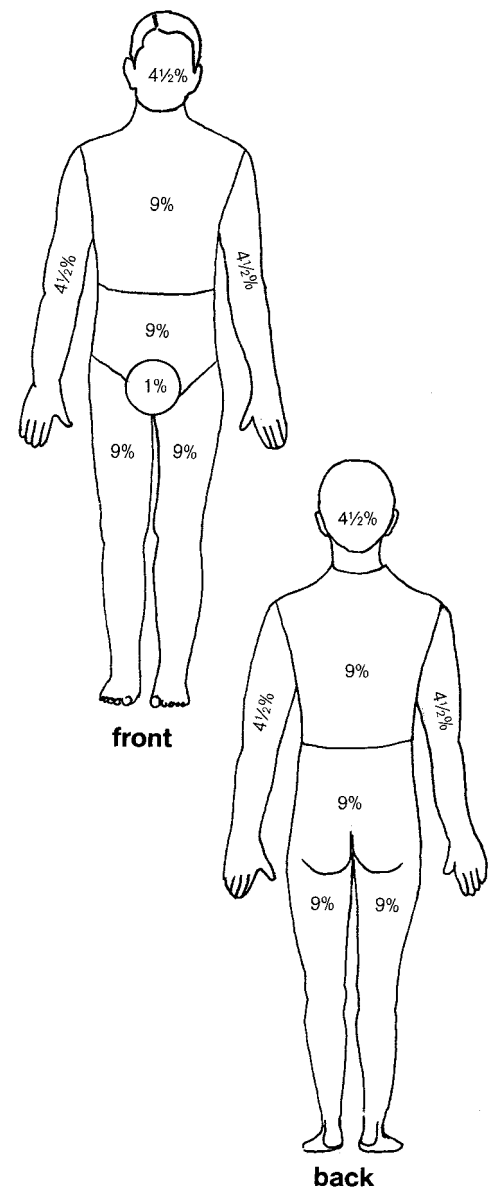
Mixed degrees of burns: Serious burns often have a mixture of the above. For example, patient may have second and first-degree burns around a third-degree burn.

Deciding What Percent of the Skin Is Burned

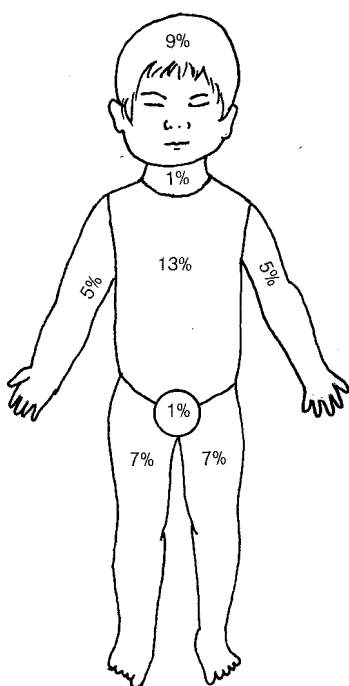
[1] Make a drawing on your SOAP note:

- Draw an outline of patient's body.
- Shade where the burns are.
- This will help you to report:
 - ☐ exactly where the burns are.
 - ☐ how much of the body is burned.

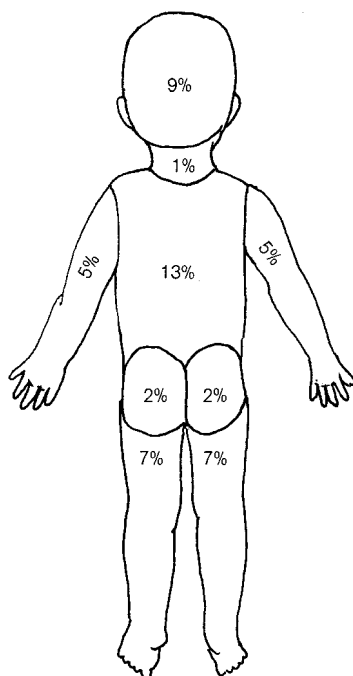
[2] For large burns, use the drawings that follow for an adult or infant. Add up the percent of skin burned in different places on the body.



Burn area, adult: rule of 9's.



front



back

Burn area, infant.

COLD INJURIES (Hypothermia, Frostbite, Immersion)

HYPOTHERMIA (low body temperature)

1. Begin Emergency Care

Treat the hypothermia patient very gently, to help prevent abnormal heart rhythm.

1.1 First, check ABC's: Airway, Breathing, Circulation.

- If you think there is no pulse, check carefully for 2 full minutes before starting CPR.
 - ☐ patient with hypothermia may have slow pulse/respirations.
 - ☐ do NOT do chest compressions if patient with hypothermia has any pulse, even if it is very slow.
- If you are doing CPR, and patient does not improve, continue until your referral doctor tells you to stop.
 - ☐ a patient with hypothermia can live after long periods of CPR, even though he may look dead.

1.2 Control severe bleeding.

1.3 Patient should lie down to prevent fainting or shock.

2. Prevent Additional Heat Loss

2.1 Protect from the cold.

- Move patient to warm shelter as soon as possible.

2.2 Remove wet or cold clothing, dry the patient, and replace with dry clothing or dry coverings of some kind.

2.3 Place dry blankets or clothes over and under patient and around head.

3. Get History and Examine Quickly

3.1 History:

- What was patient exposed to?
 - ☐ what was the temperature outside?
 - ☐ how fast was the wind blowing?
 - ☐ how long was he exposed?
- What was patient like when he was exposed?
 - ☐ how was he dressed?
 - ☐ was he wet?
 - ☐ was he drinking alcohol or taking illegal ("street") drugs?
- Past health history:
 - ☐ illnesses?
 - ☐ what medicines is patient taking now?

3.2 Exam:

- Vital signs:
 - ☐ P, R, BP.
 - ☐ rectal temperature: Use a special low reading thermometer.
- **Do a body survey (p.9)** to check for injuries and frostbite.
 - ☐ be sure to treat serious injuries/wounds at this step.

4. Assessment

4.1 Your assessment should be:

Hypothermia (low body temperature).

4.2 If you used a low reading thermometer, your specific assessment should be one of the following:

- Mild hypothermia: Temperature 90-95°F.
- Severe hypothermia: Temperature less than 90°F.

4.3 If you do NOT have a low reading thermometer, consider that patient has severe hypothermia if he has any of the following:

- No shivering, in spite of being very cold.
- Mental changes, getting worse (such as being very sleepy, confused, or unconscious).
- Abnormal coordination, getting worse (such as trouble walking, using hands, or talking).

[3] For smaller burns, you can use patient's palm size to decide the size of burn.

- The palm = about 1% of the skin.

- Severe illness or injury that may have allowed the hypothermia to develop.
- Slow pulse and respirations.
- Feels cold and stiff.

5. Plan

5.1 Report to your referral doctor.

- Report NOW if temperature is less than 90°F (severe hypothermia).
- While you are waiting to report, follow this plan.

5.2 Decide if you should rewarm or transport as follows:

- If temperature is 90-95° (mild hypothermia), rewarm.
- If temperature is less than 90° (severe hypothermia), and you can NOT reach a doctor, do the following:
 - ☐ if you can transport this patient to the hospital within ½ hour, transport and do NOT rewarm (at least 50% of patients with severe hypothermia will die with rewarming).
 - ☐ if you can NOT transport this patient to the hospital within ½ hour, begin to rewarm while someone arranges for transport.

5.3 Rewarming. Start to add heat slowly, bit by bit. Follow these guidelines:

- If severe hypothermia:
 - ☐ watch patient closely.
 - ☐ recheck vital signs (P, BP) at least every 15 minutes.
- Keep the room warm.
- If available, use clothes dryer to quickly warm up blankets or sleeping bag.
- Apply warm objects to the *head, neck, chest, armpits, and groin*. Use:
 - ☐ hot water bottles well-wrapped in towels, with *warm*, NOT hot, water inside.
 - ☐ warm rocks well-wrapped in towels.
 - ☐ a warm body or two. They should get into a warm sleeping bag together, naked (at least from the waist up).

- Do NOT do the following things:
 - ☐ do NOT try to warm the arms or legs.
 - ☐ do NOT rub or massage the arms or legs.
 - ☐ do NOT put patient in a shower or bath. Note that this is a change from previous recommendations.
- Give warm fluids to drink, ONLY if patient:
 - ☐ is wide awake and can swallow without choking.
 - ☐ is getting better, and
 - ☐ then stops shivering.
- Do NOT give alcohol or caffeine drinks (coffee, tea, hot chocolate).

5.4 Other plan should include the following:

- Treat frostbite and other problems/injuries as in this manual.
- If mild hypothermia:
 - ☐ recheck as recommended by your referral doctor.
 - ☐ when the time is right, talk about hypothermia prevention (which follows). *If problem is related to alcohol or other drug abuse:*
 - remind patient kindly of this.
 - talk with patient about the alcohol or drug problem.
- If severe hypothermia:
 - ☐ transport to hospital as soon as possible.
 - ☐ stay with patient.

Hypothermia: General Information

Hypothermia is a lowering of the body's temperature below 95°F. It can kill a person if it continues.

Common reasons for the body to lose heat are:

- ☐ getting wet.
- ☐ being in a cool or windy place without proper clothing.

Stages of Hypothermia

A person goes through stages as his temperature gets lower:

- Uncontrolled shivering, except in the

very young, the old, or patients with alcohol abuse.

- Shivering stops as the body gets colder.
- As the brain also gets colder, patient may have:
 - ☐ mental changes, such as poor judgment, being very sleepy, confused.
 - ☐ abnormal coordination, such as trouble walking, using hands, or talking (slurred speech).
- Next, patient will get:
 - ☐ weak or irregular pulse.
 - ☐ decreased and shallow breathing.
 - ☐ pupils that do not react well to light.
- He will eventually become unconscious and die if heat loss continues.

Prevention of Hypothermia

Give patient education. Get handouts from your referral hospital or other sources (many good ones are available). Include the following information:

- Do not ignore shivering. It is a warning that the body is getting too cool.
- Be prepared for the weather:
 - ☐ wear the right clothing.
 - ☐ stay dry.
- Keep your energy up by eating and resting often.

Also encourage others to show films and give talks on outdoor safety.

Plan ahead to treat hypothermia.

- Be sure to get a special low reading thermometer from your referral hospital.
- Have hot water bottles and blankets handy.

FROSTBITE

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** What was patient exposed to?
- What was the temperature outside?
 - How fast was the wind blowing?
 - How long was he exposed?

[2] What was patient like when he was exposed?

- How was he dressed?
- Was he wet?
- Was he drinking alcohol or taking illegal ("street") drugs?

[3] What has patient done to treat the problem? Has he rewarmed the area?

[4] Does patient have any other complaints?

1.2 Past Health History

[1] Illnesses?

[2] What medicines is patient taking now?

[3] Allergies?

[4] When was last TETANUS shot?

2. Exam

2.1 General appearance.

2.2 Vital signs: T, P, R, BP.

- If there is a chance that patient may also have hypothermia (low body temperature):

- ☐ get a rectal temperature. Use a special low reading thermometer.
- ☐ if temperature is 95° or less, treat first for hypothermia (p.335).

2.3 If needed, do a body survey (p.9).

2.4 Check face, hands, and feet for frostbite. Compare one side of body to the other:

- Appearance.
- Feel the skin.
- Check patient's feeling (sensation) with light touch.
- Check blood supply:
 - ☐ press on the skin. When you let go, skin color will look white. Does color return normally, within two seconds (good capillary refill)?
 - ☐ check pulses on wrists and feet.

3. Assessment

3.1 Your assessment should be:
Frostbite.

3.2 Make a more specific assessment.

FROSTBITE: ASSESSMENTS AND TYPICAL FINDINGS

SUPERFICIAL FROSTBITE (on surface)

Exposed areas of skin have:

- White or gray colored patches.
- Doughy feel (firm but not hard).

DEEP FROSTBITE

Any of the following:

- Hard, cold, icy feel to exposed areas or to a whole finger, hand, toe, or foot.
- Pulse not felt.
- Large blisters on the area (mean that deep frostbite has partly thawed).

3.3 Include in your assessment that the frostbite is one of the following:

- **Superficial frostbite.**
- **Deep frostbite.**

3.4 If you are not sure of the assessment, treat patient for possible deep frostbite.

4. Plan

4.1 Report to your referral doctor.

- Report NOW if patient has deep frostbite.
- While you are waiting to report, follow this plan.

4.2 Decide if you should thaw or transport as follows:

- *If superficial frostbite*, thaw.
- *If deep frostbite*, it is best to thaw in the hospital. If you can NOT reach a doctor:
 - ☐ have someone arrange for transport.
 - ☐ only thaw deep frostbite when patient can not leave the village in the next 2 hours.
- *If you are not sure of the assessment* (possible deep frostbite) and you can NOT reach a doctor, thaw and be ready to transport.

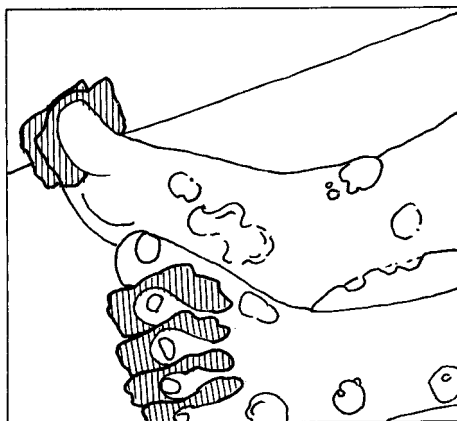
- Do NOT thaw a frozen part if there is any danger it will be frozen again.
 - ☐ a refrozen part has little chance of living.

4.3 Thawing. Correct treatment of frostbite can prevent the need for amputations, even in severe cases. Follow this plan carefully:

- *If deep frostbite* and you can NOT reach a doctor, as you begin to thaw, give patient an I.M. shot of MEPERIDINE (Demerol®) or MORPHINE (p.417).
 - ☐ thawing is very painful.
- Handle the frozen part very gently. When it is frozen or thawing, it is easily damaged.
- Thaw in warm water between 100-106°F.
 - ☐ check the temperature with a thermometer.
 - ☐ if you do not have a thermometer, the water should feel warm, NOT hot, to your wrist.
- Support the frozen part so that it does not bump the sides or bottom of the water bath.
- Stir the water or have patient move his hand or foot around.
- Add more *warm* water to keep the temperature between 100-106°.
 - ☐ do NOT add very hot water (may burn).
 - ☐ do NOT let temperature get over 110°.
- Do NOT do the following things:
 - ☐ do NOT rub the frozen part.
 - ☐ do NOT allow patient to have alcohol or tobacco.
 - ☐ do NOT apply ice or snow or try to thaw in cold water.
 - ☐ do NOT thaw the frozen part near a hot stove, fire, or any other hot place (may burn).
 - ☐ do NOT break any blisters that form.
- Thawing may take 20-30 minutes or longer. Continue warming in 100-106°F water until:
 - ☐ all areas are slightly red (flushed).
 - ☐ the skin stays pink and warm when out of the water.
 - ☐ feeling has returned.
- When you remove the part from the water, let it dry in the air.
 - ☐ do NOT rub or pat dry.

4.4 Just after thawing, bandage only if needed:

- Superficial frostbite will look swollen, red, maybe scaly.
 - ☐ it does NOT need to be bandaged.
- Deep frostbite may have large blisters or look dark in color (blue, cyanotic).
 - ☐ do not break blisters.
 - ☐ place dry, loose, sterile gauze between frostbitten fingers and toes to protect them, as in the next drawing.



Pad between toes.

- ☐ leave other areas uncovered after thawing, unless you plan to transport patient.
- ☐ if transporting, bandage gently with a soft, loose, sterile dressing.

4.5 Other plan should include the following:

- If patient has NOT had a TETANUS booster shot in the past 10 years:

Give I.M. booster shot of **TETANUS TOXOID and DIPHTHERIA (Td)**.
 • **Dose: 0.5 cc. I.M.**

- Patient education. Tell patient:
 - ☐ stay warm. Do NOT refreeze the part.
 - ☐ do NOT break blisters.
 - ☐ if frostbite is on an arm or leg, elevate it above the level of the heart.
 - ☐ keep covers off the frostbite, and protect it from other injury.
 - ☐ avoid alcohol.

- ☐ DO NOT SMOKE or chew tobacco (it decreases blood flow to the injured part).
- If needed for pain, give ASPIRIN or ACETAMINOPHEN (Tylenol®) (p.416).
- *If deep frostbite:*
 - ☐ transport patient to hospital when possible.
 - ☐ your referral doctor may suggest that you give an antibiotic to a patient with deep frostbite, to prevent infection:

I.M. shot of **PROCAINE PENICILLIN** (Wycillin®).
 • Plan to give shot every 24 hours:

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	150,000 Units
15-24 lbs.	4-17 mo.	300,000 Units
25-34 lbs.	18 mo. thru 3 yrs.	450,000 Units
35 lbs. or more	4 yrs. or more	600,000 Units

OR, If allergic to PENICILLIN:

ERYTHROMYCIN
 (200 mg./5 ml. suspension or 250 mg. tablets).
 • **Four times a day:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	60 mg. (1½ cc.)
15-24 lbs.	4-17 mo.	80 mg. (2 cc.)
25-34 lbs.	18 mo. thru 3 yrs.	140 mg. (3½ cc.)
35-49 lbs.	4-6 yrs.	200 mg. (5 cc.)
50-89 lbs.	7-11 yrs.	250 mg. (1 tablet)
90 lbs. or more	12 yrs. or more	500 mg. (2 tablets)

4.6 Recheck as follows:

- Recheck at these times:
 - ☐ for superficial frostbite, recheck only as needed. Tell patient to return to clinic if getting worse instead of better.
 - ☐ for deep frostbite, recheck at least once a day.
- Examine:
 - ☐ temperature.
 - ☐ frostbitten area.
- *If the area is getting infected*, (getting more tender, warm, red, swollen; pus seen), treat as on p.321, "Infected Wound."
- When the time is right, talk about frostbite prevention. *If frostbite is related to alcohol* or other drug abuse:
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

Frostbite: General Information

Frostbite is the freezing of tissues. Skin, muscle, fat, and even bone may freeze. Frostbite usually involves hands, feet, or exposed skin areas such as the ears, cheeks, and nose.

- Right before skin freezes, it gets inflamed and turns more red than normal.
- As skin starts to freeze, small patches of white appear.
- The skin then gets a little bit stiff.
- Only if the skin freezes quickly will frostbite cause pain.
- Once the skin is frozen, there is no feeling.

IMMERSION INJURY

Immersion injury = trench foot, immersion foot, wet-cold injury, shelter leg.

Begin here if patient has a body part that was exposed to the cold and wet for a long time, had pain when he warmed it, and you think he may have immersion injury.

1. History

1.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

- [1]** If patient was in water:
 - For how long was patient in water?
 - How cold was the water?
- [2]** What does the part feel like?
- [3]** Does patient have any other injuries or complaints?

1.2 Past Health History

- [1]** Illnesses?
- [2]** What medicines is patient taking now?
- [3]** Allergies?
- [4]** When was last TETANUS shot?

2. Exam

- 2.1** General appearance.
- 2.2** Vital signs: T, P, R, BP.
- 2.3** Examine the problem area.
Compare one side of body to the other:
 - Appearance.
 - Feel it. Is it soft or firm? Warm or cool?
 - Check for feeling (sensation) with light and firm touch.
 - Check blood supply:
 - ☐ press on the skin. When you let go, skin color will look white. Does color return normally, within two seconds (good capillary refill)?
 - ☐ if an arm or leg, check pulse on both sides of body.
 - if pulse NOT felt on top of foot (DP), check pulse behind medial ankle bone (PT).

3. Assessment

3.1 Your assessment should be **Immersion injury** if patient has typical findings listed:

IMMERSION INJURY: TYPICAL FINDINGS

History:

- Exposure to cold and wet (not freezing) for 12 hours or more. Often found in patients that have been in cold water for a long time.
- At first, skin felt numb.
- After the part was warmed, it became swollen and painful.

Exam:

- An area that is soft, moist, warm, reddened, and swollen. It is usually found on the foot, but can be found in other places.

4. Plan

- 4.1 Report** to your referral doctor, unless he has signed for you to treat this problem without contacting him.
- While you are waiting to report, follow this plan:

4.2 Patient education should include information in chart 4.2.

4.3 Medicine should include the following:

- If patient has NOT had a TETANUS booster shot in the past 10 years:

Give I.M. booster shot of **TETANUS TOXOID and DIPHTHERIA (Td)**.
• **Dose: 0.5 cc. I.M.**

- If needed for pain, give ASPIRIN OR ACETAMINOPHEN (Tylenol®) (p.416).

4.4 Recheck as follows:

- Recheck every 1-2 days, until the skin is healed.
- *If skin is getting infected* (getting more tender, warm, red, swollen; pus seen), treat as on p.321, "Infected Wound."

Chart 4.2

Patient Education IMMERSION INJURY

1. Protect the area. It is easy for the skin to get injured more.
 - Rest, with the injured part elevated.
 - Do not walk on an involved foot until the skin is healed.
 - Use crutches as needed.
2. Keep the area clean. Wash gently each day with soap and water.
3. Leave the skin open to the air, without a dressing or bandage.
4. See your CHA/P if you have danger signs of infection: getting more tender, warm, red, swollen; pus seen.
5. If you take good care of the area, it should heal within a few weeks.
6. After healing, you may have decreased feeling (sensation), and so you must be sure to:
 - Keep feet dry.
 - Avoid frostbite or other injuries.

WOUNDS/CUTS

Begin here if patient has a wound (injury with broken skin), including:

- Serious injury, such as gunshot wound, stab wound, something sticking into body (foreign body).
- Bite: human or animal.
- Other wound such as cut, laceration, puncture wound, scrape (abrasion).

1. Begin Emergency Care

1.1 First, check ABC's: Airway, Breathing, Circulation.

- If there is any sign of breathing trouble, quickly *look at* the chest for injury.
 - ☐ seal a sucking chest wound NOW (p.293).

1.2 Control severe bleeding.

1.3 If possible head, neck, or back injury, splint neck and back to prevent movement (p.243).

1.4 Position: Keep patient lying down, to prevent fainting or shock.

1.5 Check vital signs: P, R, BP.

- If shock (weak, fast pulse; low BP), now go to p.7.
- If history of severe bleeding, check P & BP with patient lying down, then sitting up.

- ☐ treat for shock (p.7) if, when sitting up:
 - pulse gets higher by more than 20, or
 - systolic BP (top number) gets lower by more than 10.

- If serious injury, plan to have helper recheck vital signs at least every 15-30 minutes, until they have been normal for two hours.

1.6 Now, for the following injuries, go to the page listed. Injuries are listed in order of recommended treatment:

- Chest injury (p.291).
- Abdominal injury (p.61).
- Head injury (p.259).
- Burn (p.331).
- Eye injury (p.101).

2. History

2.1 History of Present Illness

Get general history of present illness (inside cover). Also ask the following specific questions:

[1] Find out about the accident that caused the injury:

- Exactly what happened?
 - ☐ what caused the injury?
 - ☐ was it related to alcohol or other drugs?
- Did patient faint (pass out)?
- Does patient have other injuries?
- If gunshot wound, find out about the gun:
 - ☐ what size (caliber) was used and what kind of bullet (military, hunting, target)?
 - ☐ how close was the gun to the patient when it fired?
- If knife wound, find out what size and type of knife was used.

- If wound is over the knuckles, suspect a human bite. Patient may be embarrassed to tell you.
- If animal bite, find out the following:
 - ☐ where is the animal?
 - ☐ is the animal alive and running loose, alive and tied up, or dead?
 - ☐ was the animal acting strangely?
 - ☐ if a pet, did it have rabies shots?
 - ☐ if a wild animal, was it provoked (surprised, fighting back)?
 - ☐ is rabies common in your area?

[2] How much blood does patient think he lost?

[3] Does patient have any other complaints, such as:

- Nausea?
- Symptoms of shock: feeling weak, tired?
- Unable to feel or move his arms or legs?

[4] When did patient eat last?

2.2 Past Health History

[1] Illnesses?

[2] What medicines is patient taking now?

[3] Allergies?

[4] When was last TETANUS shot?

3. Exam

If the patient may also have a broken bone, be careful not to move the hurt part as you examine.

3.1 General appearance.

3.2 If needed, do a body survey (p.9).

3.3 Examine the injury closely:

- Location.
- Size and shape.
 - ☐ how deep is it?
- What type of wound is it (straight cut, puncture wound, other)?
- Is it discolored or swollen?
- Is it dirty?
- Look inside the cut for damage:
 - ☐ nerves and tendons look white (like gristle in an animal).
 - ☐ cut arteries will pump out blood.

3.4 If wound is on an arm or leg, check beyond (distal to) the injury, and compare both sides of the body. Damage to a nerve, tendon, or artery

often happens when there is a wound of the wrist, hand, ankle, or foot.

- Check nerves:
 - ☐ can the patient feel your light touch or a poke with a safety pin?
 - ☐ is his feeling the same as on the good side?
- Check tendons:
 - ☐ can he move in all of the normal directions?
- Check blood supply:
 - ☐ how is the color beyond the cut?
 - ☐ press on the skin. When you let go, skin color will look white. Does color return normally, within two seconds (good capillary refill)?
 - ☐ check pulse beyond the cut.
 - if pulse NOT felt on top of foot (DP), check pulse behind medial ankle bone (PT).

3.5 Bones. Check for tenderness of nearby bones:

- Start away from the painful area and slowly work toward it.
- Feel as much of the bone as you can. For example, feel along the whole length of the shin bone.
- If bone tenderness, pick a place where the skin is not injured. Does the patient have bone pain even when you press the bone over normal skin?
 - ☐ pain on pressing the bone may mean that the bone is broken.

3.6 Lab test:

- Hemoglobin, if patient lost a lot of blood.
 - ☐ hemoglobin level may be normal at first. It is important to check it NOW, to compare with level after some time has passed.

4. Assessment

4.1 Your assessment should be: **Wound.**

4.2 Include in your assessment:

- Location and size of wound.
- Other important information, such as:
 - ☐ dirty wound.
 - ☐ nerve or tendon injury.

4.3 Make a more specific assessment. Include in your assessment that the wound is one of the following types:

- **Gunshot wound** (Plan 5.1).
- **Something sticking into body (foreign body)** (Plan 5.2).
- **Bite (human or animal)** (any break in skin caused by teeth; Plan 5.3).
- **Other wound** (such as knife wound, puncture wound, abrasion, others; Plan 5.4).

5. Plan

5.1 Plan: Gunshot Wound

[1] Report NOW to your referral doctor. Begin the following treatment while someone else contacts the doctor. Often bullet damage will be inside, where you can not see it.

[2] Special care should include the following:

- Look for two wounds (entrance and exit).
- Apply a pressure dressing to both wounds.
- Now go to plan 5.4 ("General Wound Care"). Follow parts of that plan which apply.
 - ☐ be sure to recheck vital signs (P, BP) every 15-30 minutes until they have been normal for two hours.

5.2 Plan: Something Sticking Into Body (foreign body)

[1] Report NOW to your referral doctor. Begin the following treatment while someone else contacts the doctor.

If you can NOT reach a doctor, have someone arrange for transport to hospital as soon as possible.

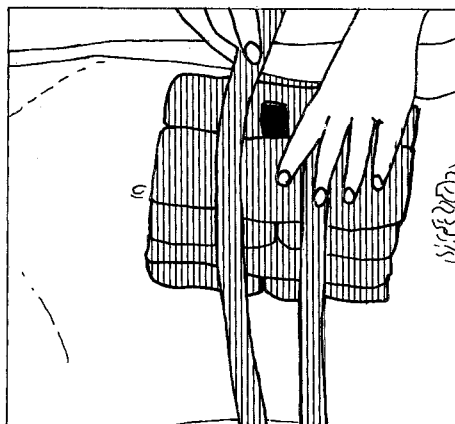
[2] Warnings include the following:

- Leave the object in place. Pulling it out may cause more damage and bleeding.
- Do NOT clean or look into this kind of wound.

[3] Special care includes the following:

- If object is stuck into eye, now go to "Serious Eye Injury," p.102.

- If object is in arm or leg, apply a splint (p.249).
- Cut away clothing (at the seams, if possible).
- If there is much chance that the object will be hit or moved, carefully trim object to smaller size.
- Put a bulky dressing around object to keep it from moving and to help control bleeding.
 - ☐ tape the foreign body and dressing in place to prevent movement.



[4] Transport patient to hospital as soon as possible. While you are waiting to transport, go to plan 5.4 ("General Wound Care"). Follow parts of that plan which apply.

5.3 Plan: Bite (Human or Animal)

[1] Wash the wound well (p.344).

- As soon as possible, scrub the wound well, to help prevent infection.
- Wash bites on the face especially well.
- As you wash, remove all pieces of dirt, blood clots, and dead or badly hurt skin.
- Irrigate the wound well, *with force*:
 - ☐ use a 10-20 cc. syringe and a 19-22 gauge needle or I.V. catheter.
 - ☐ irrigate with at least 1-2 quarts of sterile fluid or boiled, cooled water.
- Cover the wound with a dry, sterile dressing.

[2] Report NOW to your referral doctor. Also report to your sanitarian if an animal bite.

If you can NOT reach a doctor or sanitarian, follow this plan until you can.

[3] Medicine. For certain bites, start an antibiotic, to prevent infection:

- *If human OR dog bite:*

Give I.M. shot of **PROCAINE PENICILLIN** (Wycillin®).

- **Repeat the shot every 24 hours for 2-3 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	150,000 Units
15-24 lbs.	4-17 mo.	300,000 Units
25-34 lbs.	18 mo. thru 3 yrs.	450,000 Units
35 lbs. or more	4 yrs. or more	600,000 Units

- *If human bite, ALSO give:*

CLOXACILLIN (Tegopen®; 125 mg./5 ml. suspension) OR **DICLOXACILLIN** (250 mg. capsules).

- **Four times a day for 2-3 days:**

Weight	Approximate Age	Dose
Less than 15 lbs.	Less than 4 mo.	100 mg. (4 cc.)
15-24 lbs.	4-17 mo.	175 mg. (7 cc.)
25-49 lbs.	18 mo. thru 6 yrs.	250 mg. (10 cc.)
50 lbs. or more	7 yrs. or more	250 mg. (1 capsule)

- If allergic to PENICILLIN, OR *if bite was from sea mammal* (such as seal or walrus):

Give **TETRACYCLINE** (250 mg. capsules or tablets).

- Tetracycline will stain teeth as they develop. Do NOT give to:
 - ☐ pregnant woman.
 - ☐ child less than age 8.
- **Dose: 500 mg. (2 capsules or tablets) four times a day for 2-3 days.**

[4] Rabies prevention after an animal bite should include the following:

- Transport patient to hospital for possible rabies shots if you can NOT reach a doctor and:
 - ☐ the animal was wild and can not be found.
 - ☐ or, the animal was acting strangely, attacked without a reason, or died not long after biting patient.
- *If bite was from a wild animal*, tell your local police officer to find it and kill it.
 - ☐ tell officer NOT to shoot or club it in the head. The brain must be examined carefully.
- *If bite was from a pet or sled dog:*
 - ☐ tell your local police officer to chain or cage the animal so it can not bite other people.
 - ☐ watch the animal for signs of rabies for 10 days. Signs of rabies include:
 - irritability (growling more, meaner).
 - biting.
 - barking a lot.
 - chewing more than normal.
 - foamy saliva.
 - trouble swallowing.
 - walking around without any purpose.
 - trouble walking, such as dragging a leg.
 - glassy eyes.
 - any sudden change in behavior.
 - ☐ if any of signs of rabies appear, the animal should probably be killed and examined for rabies.

- If you can NOT reach a sanitarian, call the rabies laboratory yourself to see if the animal should be tested for rabies. Phone:
 - ☐ Mon.-Fri. 8-5 p.m.: 474-7017.
 - ☐ Other times: 452-1166, and ask for Unit 066.
- If the rabies lab accepts the animal for testing, do the following unless advised differently by your sanitarian:
 - ☐ if the animal is small (like a fox, cat, or bat), send the whole body.
 - ☐ if the animal is large, the head can be removed and sent. The person doing this should:
 - protect themselves by wearing waterproof gloves and avoiding touching the animal's saliva.
 - leave at least 3-4 inches of neck on the head, so that the salivary glands are included.
 - ☐ wrap the head in paper or some other absorbent material. Place it in a leak-proof plastic bag. Keep it in a cool place until you send it.
 - ☐ send the animal or its head to:

Virology, Rabies Unit
Northern Regional Laboratory
233 Arctic Health Building
901 Koyukuk Avenue South
Pouch 60230
Fairbanks, AK 99706.
 - ☐ label the package: "BIOHAZARD — KEEP REFRIGERATED."
 - ☐ tell the airline pilot what is in the package. He should make sure it stays cool and should refrigerate it as soon as possible.

[5] Other plan should include the following:

- Do NOT close the skin with wound closure strips or sutures unless the doctor tells you to.
 - ☐ closing the wound will increase the chances of infection.
- When the time is right, talk about prevention of animal bites, including:
 - ☐ always supervise small children when around dogs.
 - ☐ have pets vaccinated for rabies.
 - ☐ avoid wild animals, especially if acting strangely.
 - ☐ do NOT try to make a pet out of a wild animal.

- Now go to plan 5.4, which follows ("General Wound Care"). Follow parts of that plan which apply.

5.4 Plan: Other Wound and General Wound Care

[1] Report to your referral doctor, unless the wound is minor and he has signed for you to treat minor wounds without contacting him.

- Report NOW if:
 - ☐ patient has lost a lot of blood, has a low hemoglobin, or has signs of shock (weak, fast pulse; low BP).
 - ☐ wound is large or serious, such as a stab wound or any cut that goes deeper than fat (into muscle).
- While you are waiting to report, follow this plan.

[2] Special care should include the following:

- If you think you will need to use instruments that are not already sterile, have a helper start boiling them now, and boil for 20 minutes. Examples include instruments for:
 - ☐ picking dirt out of a wound.
 - ☐ suturing.
- If you do not have sterile fluids for rinsing a deep or serious wound, have a helper boil water for 5 minutes and remove it from heat.
- If wound is on a hand or arm, remove jewelry (rings, bracelets) to prevent damage if the hand swells.
- Wash your hands well, put on sterile gloves, and clean the wound (p.344).
- Examine the wound again.
 - ☐ look inside a large cut to see if a nerve, artery, or tendon is cut.
- If wound is over a bone or joint and you think the bone may be broken, treat for open fracture. Now go to p.238.

[3] Decide if you should close the wound, as follows:

- Do NOT close wound if there is a serious injury underneath or if it may get infected easily. When in doubt,

leave the wound open. Plan NOT to close wound in the following cases:

- ☐ cut goes deeper than fat (into muscle).
- ☐ nerve, artery, or tendon may be damaged.
- ☐ bone may be broken underneath.
- ☐ there is lots of bleeding.
- ☐ puncture wound. This is a wound that is deeper than it is wide. It is usually made by something that is sharp and pointed, such as a stab wound, nail, or splinter. Puncture wounds get infected easily.
- ☐ human or animal bite.
- ☐ happened when working with a sea mammal (such as seal or walrus), fish slime, or rabbit.
- ☐ dirty wound.
- ☐ wound is over 6 hours old.
- *If you decide you should NOT close the wound, do one of the following:*
 - ☐ arrange for transport to hospital, if needed.
 - ☐ leave the wound open, and care for it yourself.
- *If you decide you should close the wound, do one of the following:*
 - ☐ use wound closure strips:
 - for most wounds that you decide to close.
 - if wound is easy to close.
 - if there is no space under the skin when closed.
 - follow guidelines on p.344.
 - ☐ suture the wound:
 - if it is a deep cut, through skin and fat.
 - if wound is in an area where it may easily pull apart with movement.
 - if wound closure strips will not hold wound edges together.
 - if you can NOT reach a doctor and the doctor has signed for you to do this when you can not reach him.
 - follow guidelines on p.345.

[4] Other plan should include the following:

- Cover wound with a dry, sterile dressing.
 - ☐ if abrasion (scrape), use a “non-stick” type of dressing, or

apply a small amount of antibiotic ointment to the wound.

- If needed, fit patient with sling, splint, or crutches.
- If patient has NOT had a TETANUS booster shot in the past 10 years:

Give I.M. booster shot of **TETANUS TOXOID and DIPHTHERIA (Td)**.

- **Dose: 0.5 cc. I.M.**

- Report to your local police or State Troopers if:
 - ☐ gunshot wound.
 - ☐ you suspect that a knife or stab wound was the result of a fight or attack.
- If needed, for pain:
 - ☐ give ACETAMINOPHEN (Tylenol®; p.416).
 - ☐ if pain is severe and you can NOT reach a doctor, give ACETAMINOPHEN with CODEINE (p.416).

[5] Patient education should include information in chart 5.4.

Chart 5.4

Patient Education WOUND CARE

1. Keep your wound and dressing clean and dry.
 - Do NOT wash the wound unless your CHA/P tells you to.
 - If dressing becomes wet, it will need to be changed. See your CHA/P.
2. Do NOT put medicine, lotion, or ointment on the wound unless your CHA/P tells you to.
3. Warning! The wound may get infected. See your CHA/P for any of the following:
 - Getting more painful, warm, red, swollen.
 - Red streak up an arm or leg.
 - Pus seen.
 - Foul smell from wound.
 - Enlarged, tender lymph nodes (lumps; may be in neck, armpit, elbow, groin, behind knee).
 - Fever or chills.

4. Reduce swelling. Swelling slows healing and helps to cause other problems, such as infection. For the first few days:

- If wound is on arm or hand, raise injured part above level of your heart:
 - ☐ when sleeping, rest arm on pillow.
 - ☐ when sitting, rest elbow on soft, firm support on a table.
 - ☐ when standing, rest hand of injured side on opposite shoulder.
- If wound is on leg or foot, raise injured part above level of your heart:
 - ☐ when sitting, rest leg on padded chair.
 - ☐ when lying down, rest leg on pillow.
- If you have a bruised area, it will help to do the following:
 - ☐ for the first 1-2 days, apply cold packs (ice, placed in plastic bag and wrapped in a towel). Apply for 20 minutes. Repeat as needed.
 - ☐ after 1-2 days, apply moist heat (a warm, wet towel), but do NOT get dressing or broken skin wet. Apply for 20 minutes, about four times a day.

[6] Recheck as follows:

- Recheck every two days, sooner if serious wound (such as bite) or if patient is having problems.
- Check temperature.
- *If wound was closed with wound closure strips or sutures:*
 - ☐ do not remove dressing for two days, unless patient has signs of infection.
 - ☐ after two days, examine wound. If wound is dry and healing well, you may decide to leave dressing off.
 - ☐ follow guidelines for removing:
 - skin closure strips, p.345,
 - sutures, p.348.
- *If wound was left open:*
 - ☐ do not remove dressing for four days, unless patient has signs of infection.

- ☐ after four days, examine wound. If wound is healing well with no signs of infection, your referral doctor may suggest that you close it (delayed closure, after 4-5 days). If so, follow the guidelines for using skin closure strips (p.344) or suturing (p.345).
- *If wound happened when working with sea mammal* (such as seal or walrus), fish slime, or rabbit, *AND* if it is hurting more after 4-5 days, treat as on p.321, "Infected Wound."
- *If wound is getting infected*, (wound getting more tender, warm, red, swollen; pus seen), treat as on p.321, "Infected Wound."
- When the time is right, talk about accident prevention. *If problem is related to alcohol or other drug abuse:*
 - ☐ remind patient kindly of this.
 - ☐ talk with patient about the alcohol or drug problem. Follow the plan on p.204.

Cleaning/Washing a Wound

Cleaning/washing is a very important part of wound care.

CLEANING/WASHING A WOUND

Equipment/supplies needed:

- For washing, a basin of soapy water:
 - 1 part POVIDONE-IODINE scrub (Betadine®) to 10 parts water.
 - Or, soap and water.

Sterile 4x4's (gauze sponges)

Sterile gloves

Sterile instruments, if needed (such as forceps to pick out dirt)

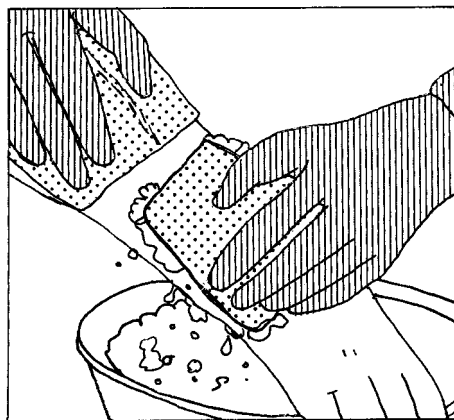
For irrigating:

- Sterile fluid:
 - ☐ 0.9% SODIUM CHLORIDE (saline).
 - ☐ or, LACTATED RINGER'S I.V. fluid.
 - ☐ or, water that has been boiled for 5 minutes and cooled.
- Syringe:
 - ☐ for rinsing: large syringe.
 - ☐ if needed for irrigating: 10-20 cc. syringe or larger and 19-22 gauge needle or catheter.

Never put ALCOHOL inside a wound. Doing that will damage the tissue.

Do the following:

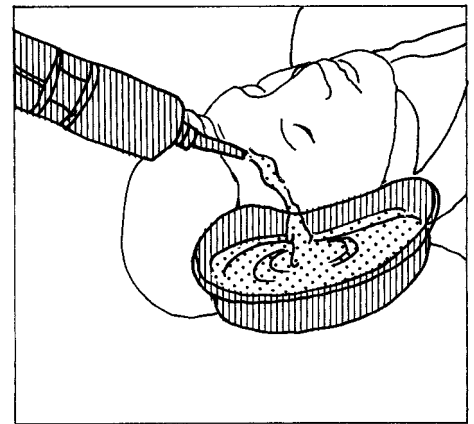
- [1]** Get set up:
 - Wash your hands well.
 - Get equipment/supplies ready, so it all is handy to use.
 - Put on sterile gloves.
- [2]** First, wash around the wound, to keep germs that were on the skin from being washed into the wound:
 - Cover wound with a sterile 4x4.
 - Wash skin well, around the wound.
 - Rinse.



- [3]** Trim (cut) hair, if needed, to keep it out of the wound (causes infection).
 - Avoid shaving, which may increase infection.
 - Do NOT trim an eyebrow. You need to be able to see the eyebrow in order to match up the skin edges for good healing.
- [4]** Next, remove the gauze and wash the wound well, for 5 minutes:
 - Use sterile 4x4's and the soapy water.
 - If wound fits into the basin, you may decide to wash it there.
 - Clean out all of the dirt, or it can cause infection.
 - ☐ lift up and clean under any flaps of skin.
 - ☐ use instruments to pick out pieces of dirt.
 - If cleaning the wound is very painful and it is still dirty, you may decide to numb the wound with LIDOCAINE (Xylocaine®; p.346) and then clean the wound again.

[5] Rinse the wound well.

- Use a large syringe or clean suction bulb to help wash dirt away.



- *If the wound is still dirty:*
 - ☐ it may help to use a mixture of 1 part water to 2 parts HYDROGEN PEROXIDE, to foam out the dirt.
 - ☐ next, rinse again.
- [6]** Irrigate certain wounds well.
 - Irrigate wounds that are likely to get infected:
 - ☐ wound over bone or joint.
 - ☐ bite.
 - ☐ very dirty wound.
 - Use a 10-20 cc. syringe and a 19-22 gauge needle or I.V. catheter to squirt out the germs.
 - Irrigate *with force*.
 - ☐ use at least 1-2 quarts of sterile fluid or boiled, cooled water.
 - ☐ use more fluid for a deep or dirty wound.

SOFT TISSUE INJURIES: SKILLS

USING SKIN CLOSURE STRIPS

Begin here after you have used the wound care guidelines that start on

p.339. This means you have already done the following:

- Carefully examined and cleaned the wound.
- Decided that this is a cut that should be closed with skin closure strips.

For most wounds that you decide to close, you should use skin closure strips (Steri-strips®, Butterfly®). Follow guidelines below or on package. If you do not have packages of these strips, you may decide to cut your own from adhesive tape, as in the following drawing.



[1] If needed, cut away dead tissue, the same as when suturing (p.347).

[2] Prepare the skin around wound, so strips will stick better:

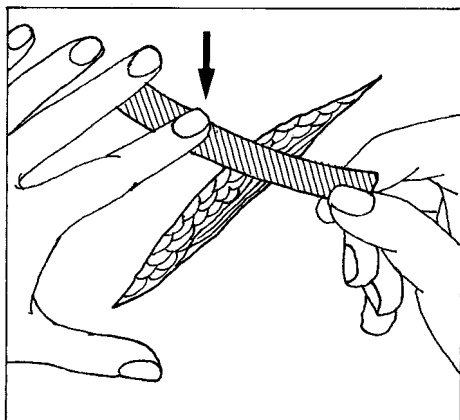
- Clean skin with an ALCOHOL wipe.
- Dry with a sterile 4x4.
- If you have tincture of benzoin, put it on skin around wound.
- Be careful not to get alcohol or benzoin into open wound.

[3] Get wound closure strips ready:

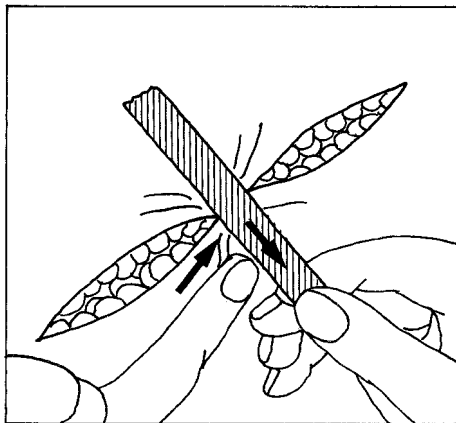
- Grasp package tabs and peel back. Remove card.
- Remove strips as you need them being careful not to touch part that will go over wound.

[4] Apply strips:

- Place one half of strip on one side of wound as in next drawing.
- Press firmly into place.



- Gently pull on other end of strip with your fingers.
- With your fingers push skin edges together exactly. Press other half of strip into place.



- Keep skin dry with sterile 4x4 so strips will stick.
- Close entire wound with strips, 1/8 inch apart.
- After you have finished, if wound is not closed under a strip, take it off and reapply it.
- You may add extra strips for more strength.

[5] Place a dry, sterile dressing over wound, if needed.

[6] For other plan, including TETANUS TOXOID and DIPHTHERIA (Td) shot, patient education, and recheck information, see plan for wound care, p.342.

[7] Removing strips:

- Leave strips in place 7-14 days.
- When removing strips, pull each end toward middle.

SUTURING (Stitching, Sewing Skin Wounds)

Begin here after you have used the wound care guidelines that start on p.339. This means you have already done the following:

- Carefully examined, cleaned, and reexamined the wound.
- Decided that this is a cut that should be closed with sutures.

You should be taught and checked out on suturing by a qualified person. This section is to be used as a reminder.

If you can NOT reach a doctor, you should suture only if the doctor has signed for you to do this when you can NOT reach him.

SUTURING

Equipment/supplies needed:

Syringe: 5, 10, or 20 cc., depending on how much LIDOCAINE you will use

20G needle

25G or smaller needle

ALCOHOL or POVIDONE-IODINE (Betadine®) wipes

1% LIDOCAINE (Xylocaine®)

Sterile gloves

Drape: Small, disposable plastic drape, such as Steri-Drape®

Sterile 4x4's (gauze sponges)

Suture material, nylon, 4-0 (on face use 5-0 or 6-0, if available)

Instruments for suturing, including:

- Mosquito forceps (hemostat).
- Tissue forceps (with teeth).
- Surgical scissors.
- Needle holder.
- Dressing forceps.

1. Getting Started

1.1 Instruments should be as sterile as possible. Use one of the following:

- Clean instruments that have been boiled for 20 minutes.
- Clean instruments that have been wrapped in foil, baked for two hours at 350°F, and kept wrapped until needed.

- Disposable suture set.

1.2 Reassure patient and explain what you are going to do.

- Keep talking to a child while you work.

- Have parent stay, if helpful.

1.3 Place a good light over the wound.

1.4 Place a chair near patient, so you can sit down as you work.

1.5 Wash hands.

1.6 If there is hair around the wound that you think will get in the way, trim (cut) the hair.

- Do NOT trim or shave an eyebrow, or you may sew it together at the wrong spot.

2. Lay Out Sterile Materials

As you do this, teach a helper how to give you extra supplies when you have on sterile gloves.

2.1 On a flat surface, carefully peel open outer wrapper that holds sterile gloves.

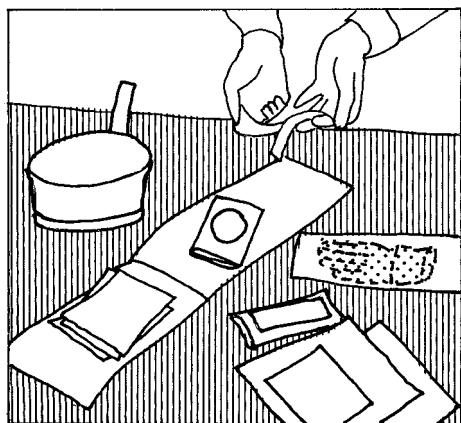
- Be careful not to touch inside of wrapper.
- Peel wrapper all the way open, so it will lay flat.
- Remove package inside, which holds the gloves, and set it aside.

2.2 Onto the wrapper, carefully peel open and drop:

- Drape.
- Sterile 4x4's.
- Suture material.

2.3 Nearby, place your container of instruments for suturing.

- You may want to move some or all of the instruments onto the sterile area after you put on your gloves.



3. Numb (Anesthetize) the Wound

3.1 Ask patient if he is allergic to LIDOCAINE (Xylocaine®).

3.2 Draw up more LIDOCAINE than you think you will need.

3.3 Inject LIDOCAINE to numb the wound.

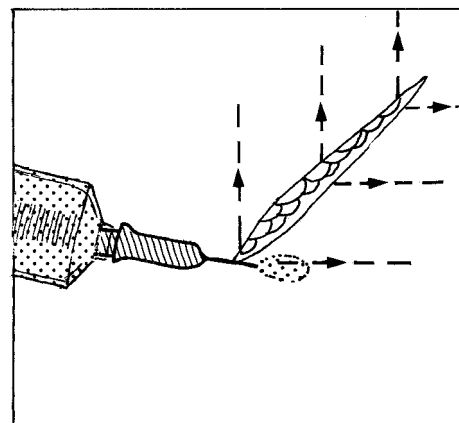
- Use a 25G or 26G needle to inject:

Inject **LIDOCAINE** (Xylocaine®; 1% solution).

- Tell patient, "The medicine will burn for 15 seconds or so."
- Do NOT inject any more than the following amounts in a 1½ hour period:

Weight	Approximate Age	Dose
Less than 11 lbs.	Less than 2 mo.	1 cc.
11-21 lbs.	2-11 mo.	2 cc.
22-31 lbs.	1-2 yrs.	4 cc.
32-44 lbs.	3-5 yrs.	6 cc.
45-59 lbs.	6-8 yrs.	8 cc.
60-89 lbs.	9-11 yrs.	12 cc.
90-109 lbs.	12-13 yrs.	16 cc.
110 lbs. or more	14 yrs. or more	20 cc.

- Start at one end of wound, and work toward the other.
 - ☐ if injected correctly, LIDOCAINE will always be in front of your needle, and patient will only feel very first needle stick plus burning of the medicine.
- Begin injecting as soon as needle is into skin.
 - ☐ you may see a little bump (wheal, like a mosquito bite) appear in the skin at the needle tip.
- *Keep injecting* into the skin (NOT deeper) as you push the needle in further.
- Watch the tissues swell with LIDOCAINE.
- Inject as needed, about every ¼ to ½ inch along the wound.



Inject in these directions.

3.4 Check for numbness.

- Use tissue forceps (with teeth) to gently squeeze skin.
- Ask patient, "Does this hurt?"
 - ☐ if numb, patient may feel it, but it should not hurt.
- If needed, inject more LIDOCAINE.

4. Recheck Wound with Gloves and Drape On

4.1 Put on sterile gloves.

4.2 Place drape around wound so you have a sterile area for your work.

4.3 Recheck the wound:

- Use your hemostat to help spread the tissues.
- Look closely for:
 - ☐ dirt (foreign bodies). If found, you will need to clean and irrigate the wound again.
 - ☐ damage to muscles, tendons, blood vessels, nerves, or other structures. If found, report to your referral doctor.

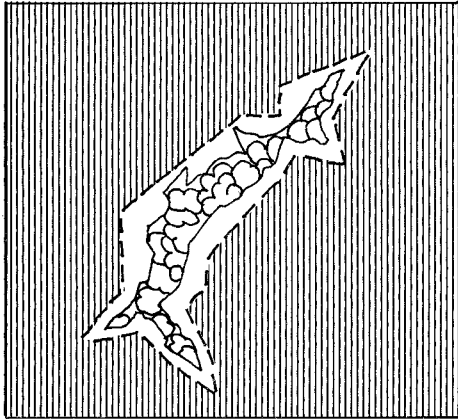
5. Trim Wound Edges, If Needed

Doing this helps to prevent infection and make less of a scar.

5.1 Wound edges probably should be trimmed away (cut, debrided) if the following is true:

- Tissue is ragged.
- Tissue is dead:
 - ☐ dark in color.
 - ☐ crushed.
 - ☐ pieces are too small to live.

- ONLY if, when you pull on the skin, it feels loose enough so that edges will pull together easily after you trim.
 - if skin is tight and wound needs to be debrided, consider leaving wound open to heal (p.342), or it may get infected.



Plan to trim ragged wound edges.

5.2 Hold skin gently with tissue forceps (with teeth).

5.3 Trim wound edges so they become sharper, neater to pull together when suturing.

- It is OK to use sharp, sterile surgical scissors.
- To stop bleeding, apply pressure with 4x4.

6. Suture the Wound

If wound is very deep, your referral doctor may suggest that you put in some deeper stitches, with absorbable suture material (such as 3-O Chromic Gut), if you know how.

Use the following guidelines for placing skin sutures only:

6.1 Use your instruments to help you.

- Grasp needle with needle holder as in next drawing.
- Use tissue forceps (with teeth) as needed, to hold skin.

6.2 As you begin, make sure wound edges come together at the right spot.

- For most wounds, start suturing at one end of wound, and work toward the other.

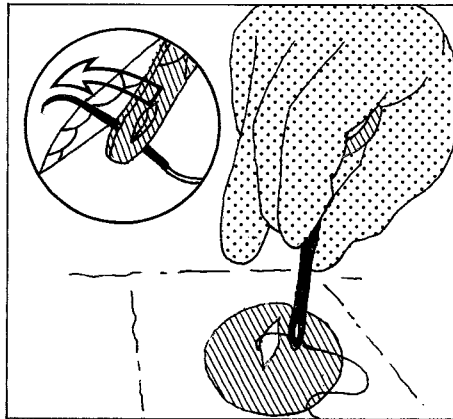
- If wound is very long, it may help to sew wound in sections:
 - place first suture in center of wound.
 - place next suture in center of one half of the wound, and so on.

6.3 Place the needle:

- About $\frac{1}{8}$ inch away from wound edge.
 - look at $\frac{1}{8}$ inch on a ruler, so you know for sure.
 - placing the needle any closer to wound edge may cut off blood supply to that area.
- Angle the needle away from the wound edge, as in the next drawing.

6.4 Insert needle.

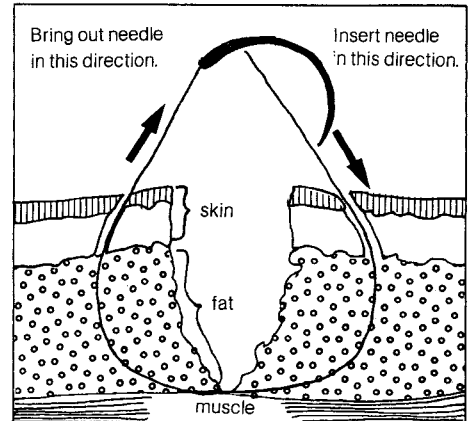
- As you use the needle, remember that it is curved.
 - it should go through the wound in a curved direction.
 - suture will go deeper than its width at wound edge.
 - if you try to make needle go in a straight direction, it will bend.
- Push and twist needle holder.



- Suture should go to the bottom of the wound.
 - this prevents leaving a gap under the skin, where infection may start.
 - in order to get suture deep enough, you may need to bring out needle in center of wound, regrasp needle, reinsert needle in center of wound, and finish the suture.

6.5 Bring out needle the same distance away from wound edge (about $\frac{1}{8}$ inch) as where you entered on the other side.

- Since needle is curved, it should come out of the skin angled toward the wound edge, as in the next drawing.



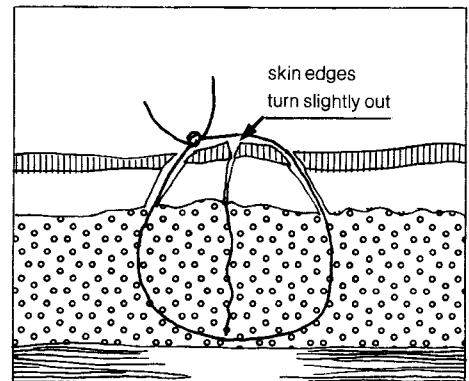
Correct placement of suture.

6.6 Tie suture well.

- As you tie, skin edges should come together on the same level and turn slightly out.
 - if edges turn in, consider replacing the suture, or the scar will be larger.
- Do NOT tie very tightly.
 - pull suture so that skin edges are just touching.
 - swelling will make sutures tighter.
- It works well to tie three square knots.

6.7 Cut the suture and pull the knot to one side.

- Leave ends of suture long enough so you can easily grasp them when removing sutures:
 - $\frac{1}{2}$ inch is safe for most sutures.
 - 1 inch may be good for scalp wounds.



Pull the knot to one side.

6.8 Space sutures as needed:

- On most areas, sutures are put as close together as needed to hold wound edges together well.
 - usually about 1/4 inch apart.
- On face, sutures are put closer together, to make a smaller scar.
 - about 1/8 inch apart.

7. Other Plan

7.1 For other plan, including wound dressing, TETANUS TOXOID and DIPHTHERIA (Td) shot, patient education, and recheck information, see plan for general wound care, p.342.

REMOVING SUTURES

1. Decide When to Remove Sutures

1.1 Face:

- Four days.
- Put on wound closure strips for 3 more days.

1.2 Other body parts:

- Usually 7 days.
- Back, arms and legs: 10 days.
- Areas of body where skin will stretch as person moves may need to be in up to 14 days (example: knee).

2. Get Ready

REMOVING SUTURES

Equipment/supplies needed:

Sharp sterile scissors and forceps (or suture removal set)
Sterile 4x4's
Bandage scissors
Basin

2.1 Gather equipment.

2.2 Wash hands.

2.3 Cut patient's bandage away if needed.

2.4 Wash hands again.

2.5 Open suture removal set.

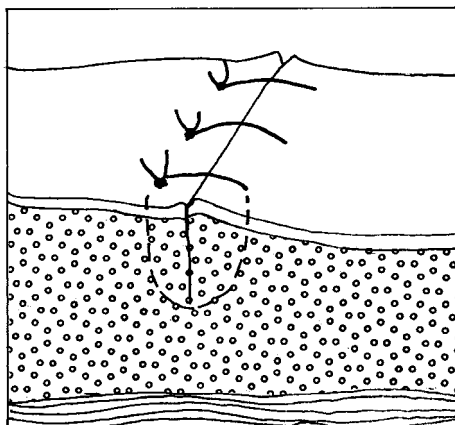
2.6 Gently clean sutures with wet soapy gauze.

2.7 Rinse sutures with water and dry with sterile gauze.

3. Remove Sutures

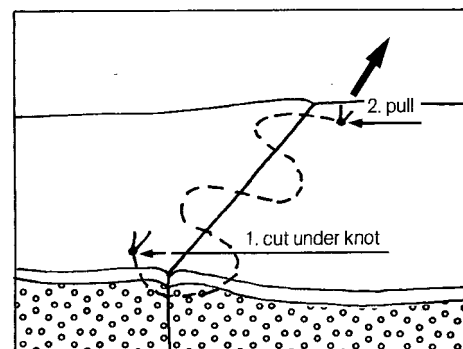
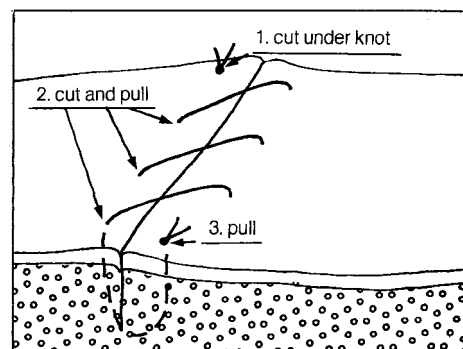
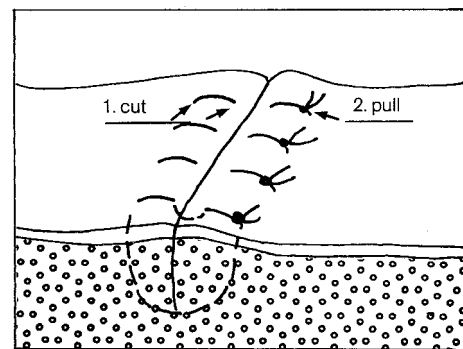
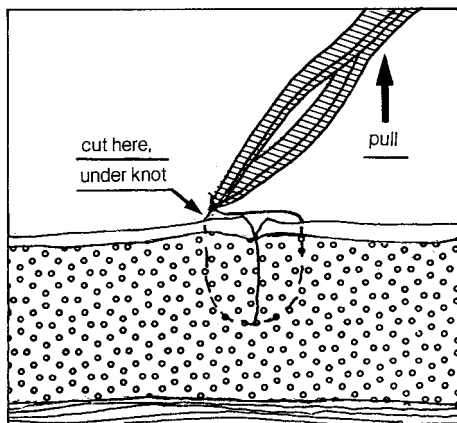
3.1 General guidelines for removing all sutures:

- Pick up one end of suture with forceps.
- Use sterile scissors to cut under knot close to skin.
- Do not cut suture in middle. This drags dirt through skin when suture is removed.
- With the forceps take hold of end of suture or knot and gently pull out suture.
- Do this until all sutures are removed.

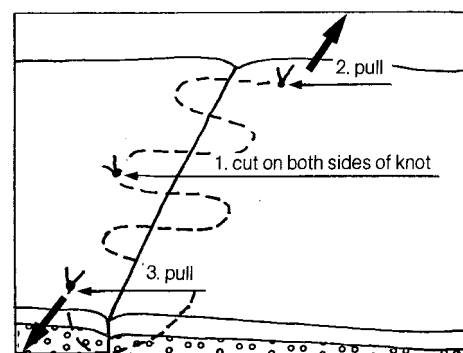


The most common type of sutures.

3.2 For a specific type of suture, remove as shown in one of the following drawings.



Apply gentle pressure over wound as you pull.

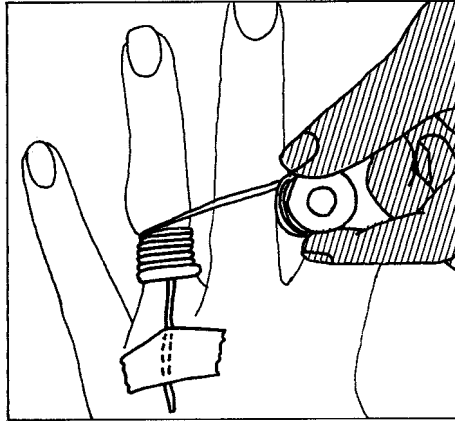


Apply gentle pressure over wound as you pull.

4. After Suture Removal

- 4.1** After all sutures are out, clean and dry the area again.
- 4.2** Apply wound closure strips for a few more days, if needed.
- 4.3** Dispose of dirty dressings.
- 4.4** Wash instruments well with soap and water.
- 4.5** Wash your hands.
- 4.6** Tell patient to return to clinic if he has problems, such as signs of infection (getting more tender, red, swollen; pus seen).
- 4.7** Check your suture supplies and reorder needed items.

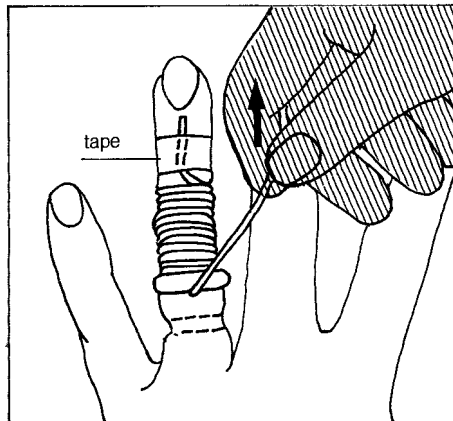
- Wrap string close enough together to prevent swollen tissue from bulging through.
- Wrap past the area of greatest swelling.



Wrap string tightly toward fingertip.

- [5]** Place tape over end of string without taping over any of wrapped string (as shown in next drawing).

- [6]** Untape the end of string near the knuckle, and pull string toward the fingertip.



Pull string toward fingertip.

- Keep pulling and unwinding string as ring slips over wrapped string.
 - ☐ do this until ring slips off finger.
- If ring gets stuck along the way, try putting Vaseline® on the string ahead of the ring.

If you still can not remove the ring, use a ring cutter if available.

REMOVING A RING

Remove patient's ring any time there is an injury to that finger, hand, or arm.

- If a ring completely cuts off circulation in patient's finger, there may only be a few hours before serious problems happen.

If you can not remove a ring with soap and water, follow these steps:

- [1]** You will need 2-3 yards of fine string or dental floss and some adhesive tape.

- [2]** Move ring to its loosest spot, often this is nearest the knuckle.

- [3]** Thread one end of string under ring and pull several inches through ring toward hand.

- If you have trouble getting string under ring, slip in a match, toothpick, or forceps and then slip string under.
- Tape string to hand.

- [4]** Wrap string tightly toward fingertip:
 - Start right next to the ring.
 - Wrap string tightly around finger.
 - ☐ wrap in one smooth layer.

REMOVING A SPLINTER

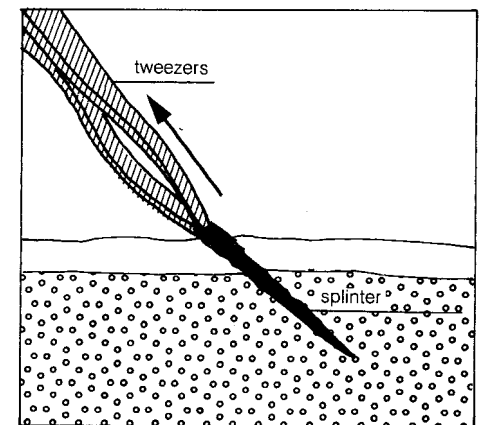
If serious injury from splinter

because it is very large, or is in a location where serious damage may happen, or has damaged a nerve, tendon, or artery:

- Contact your referral doctor.
- Bandage it the same way you would a foreign body (p.341).
- Arrange for transport to hospital.

If splinter is not very deep, follow these guidelines for removing:

- [1]** Wash skin around splinter.
- [2]** If needed, use sterile needle to find top of splinter.
- [3]** Pull splinter back out along same line it went in.
 - If splinter is wood, use the point of a 23 or 25 gauge needle to catch and pull splinter back out.
 - If needed, use tweezers or forceps to pull splinter.



Removing a splinter.

- [4]** After splinter is out, wash and care for wound as on p.342 ("General Wound Care").

If splinter is deep but it has not injured any important tissues, report to your referral doctor. He may suggest that you do the following:

- [1]** Wash the skin well.
- [2]** Inject a small amount of LIDOCAINE (Xylocaine®) around the area (p.346).

- [3]** Put on sterile gloves.
- [4]** Cut down to splinter with sterile scalpel blade.
- [5]** Remove splinter with sterile tweezers or forceps.
- [6]** Wash and care for wound as on p.342 ("General Wound Care").

If splinter is infected, treat as for any infected wound (p.321).

REMOVING A FISHHOOK

If fishhook seems to be in a location where serious damage may happen, or if it has damaged nerves, tendons, or arteries:

- Report to your referral doctor.
- Bandage it same way you would a foreign body (p.341).
- Arrange for transport to hospital.

If you feel you can remove fishhook without causing more damage:

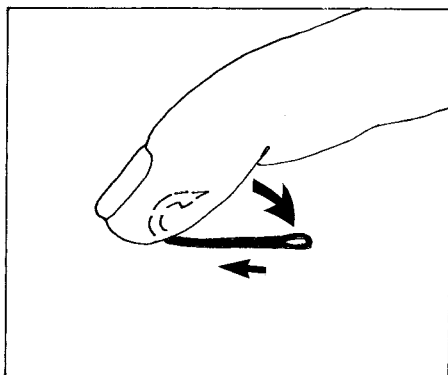
- Read about the following methods.
- Choose the method which seems best for this patient.

After hook is removed, wash and care for wound as on p.342 ("General Wound Care").

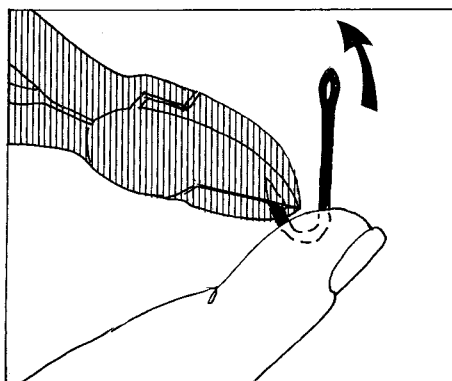
- Do not close wound with wound closure strips or sutures.

Method 1

- [1]** Push barb up through skin.

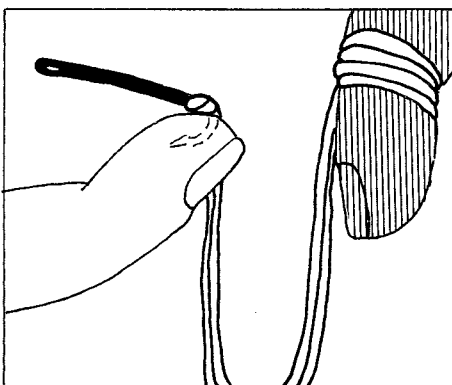


- [2]** Clip off barb.
- [3]** Slide hook back out.

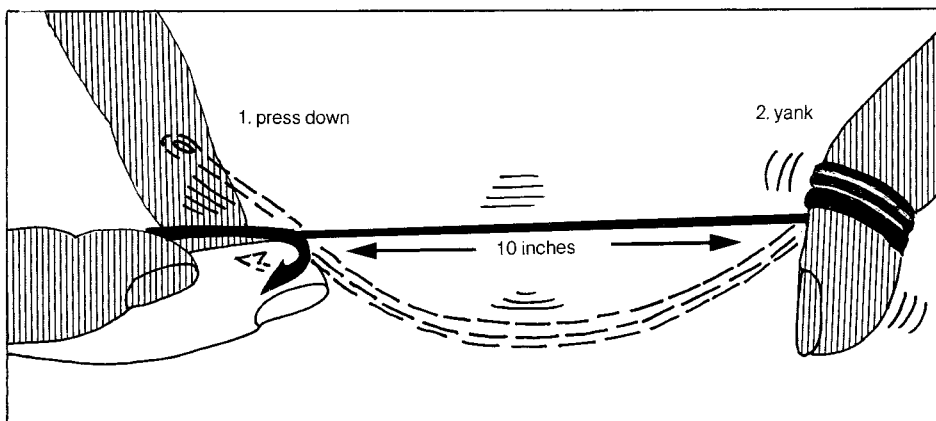


Method 2

- [1]** Take a piece of fishline about 2 feet long.
- [2]** Loop fish line around hook.
- [3]** Wrap ends of line around your pointer finger.

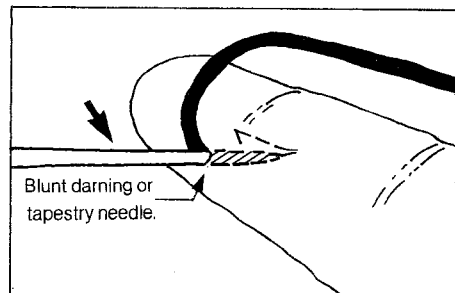


- [4]** Press down on eye of hook. This will loosen barb.
- [5]** Hold fish line as in the next drawing; then yank.



Method 3

- [1]** Find a darning needle or tapestry needle that is slightly larger around than shank of the fishhook. The point must be blunt, as a sharp point will make a new hole instead of following the hole made by fishhook.
- [2]** Gently insert needle on one side of hook and push it in until needle and hook are same depth.
- [3]** Pull needle end back so it is about even with barb.
- [4]** Push sideways with needle, away from barb (moving skin away).



- [5]** Now, slide hook back out.

Method 4

If hook is very deep, report to your referral doctor. He may suggest you :

- [1]** Wash the skin well.
- [2]** Inject a small amount of LIDOCAINE (Xylocaine®) around hook.
- [3]** Put on sterile gloves.
- [4]** Cut down to fishhook with sterile scalpel blade.
- [5]** Remove fishhook with sterile tweezers or forceps.

NORMAL ANATOMY & FUNCTION

CIRCULATORY SYSTEM, BLOOD, AND LYMPHATICS

THE CIRCULATORY SYSTEM AND BLOOD

The circulatory system is the body system that moves blood to and from body tissues. Blood carries oxygen, carbon dioxide, food, wastes, and other substances.

The circulatory system includes the following:

- Heart, a muscle that pumps the blood.
- Blood vessels, which carry the blood:
 - ☐ arteries (picture, p.370) carry blood away from the heart, to body tissues.

- ☐ capillaries connect the smallest arteries to the smallest veins. They allow for exchange between blood and body cells and between blood and lungs.
- ☐ veins carry blood back to the heart, from body tissues. They have one-way valves which keep blood flowing toward the heart.
- Blood is made up of:
 - ☐ red blood cells (erythrocytes), which contain hemoglobin and carry oxygen.
 - ☐ white blood cells (leukocytes), which fight infection.
 - ☐ platelets, which help blood to clot.
 - ☐ plasma, the blood fluid; carries the blood cells and other substances.

LYMPHATICS (LYMPHATIC SYSTEM)

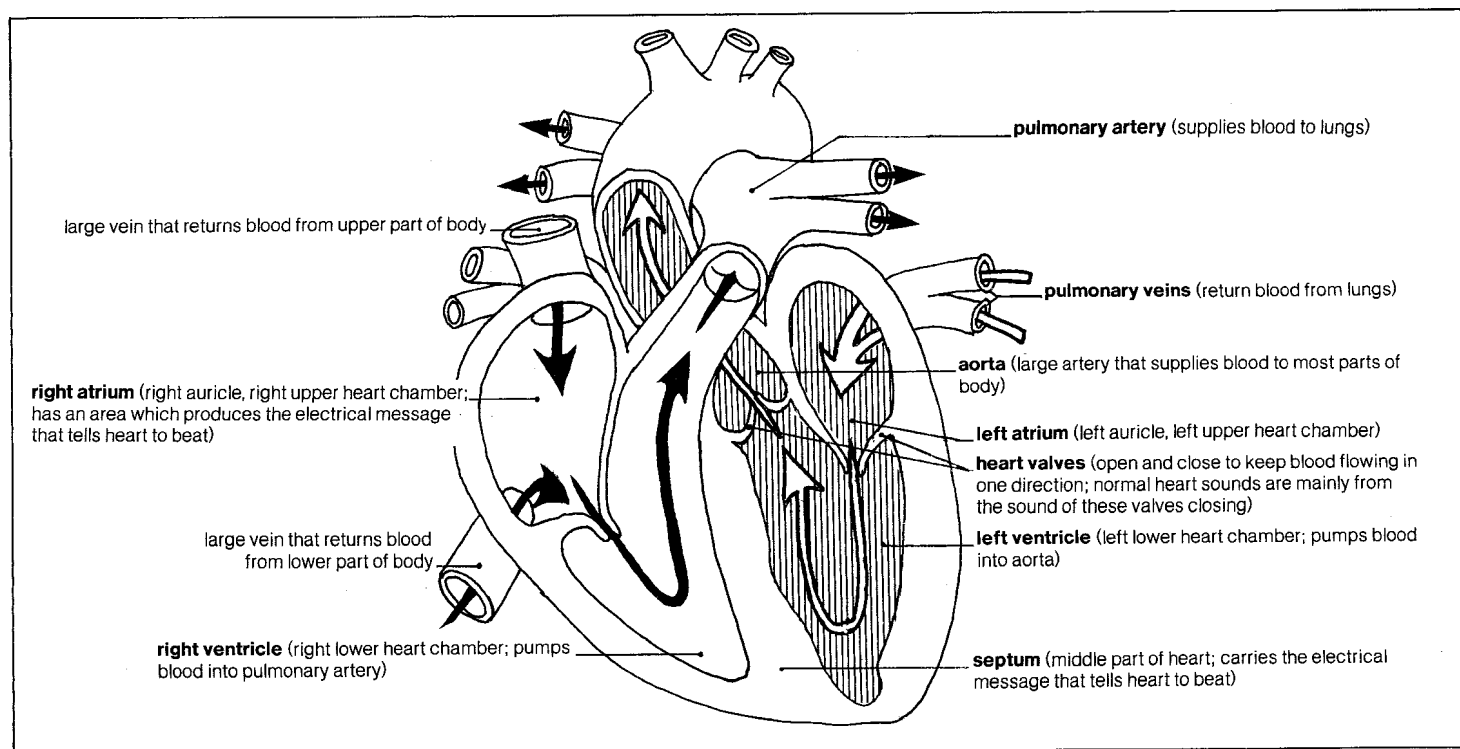
When blood is brought to the body tissues, more fluid comes out of the small blood vessels than is carried

back to the heart by the veins. The extra fluid (lymph, lymphatic fluid) is carried back into the veins by lymph vessels:

- Small lymph vessels collect the extra fluid.
- As the fluid travels back toward the heart, it passes into larger and larger lymph vessels.
 - ☐ lymph vessels are not seen unless they are inflamed, as with a "red streak" up an arm or leg.
- The largest lymph vessels carry the fluid into a large vein in the chest.

Lymph nodes (nodes; incorrectly called "lymph glands") are grouped along the lymph vessels.

- Lymph nodes filter the lymph fluid. Things that do NOT belong, such as bacteria or cancer cells, may be trapped and destroyed.
- Lymph nodes may become swollen when filtering fluid from an area with infection, cancer, other problems.
- For places where you may feel lymph nodes, see p.385.



Heart: normal anatomy and function.

DIGESTIVE SYSTEM AND ABDOMEN

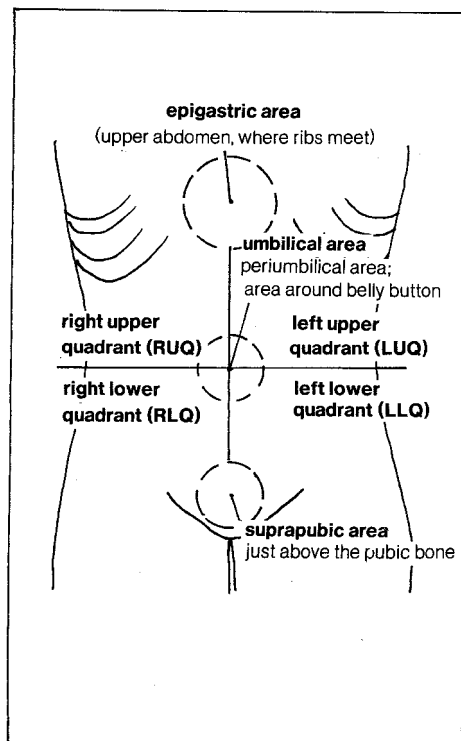
DIGESTIVE SYSTEM

The digestive system (gastrointestinal system) is the body system that does the following:

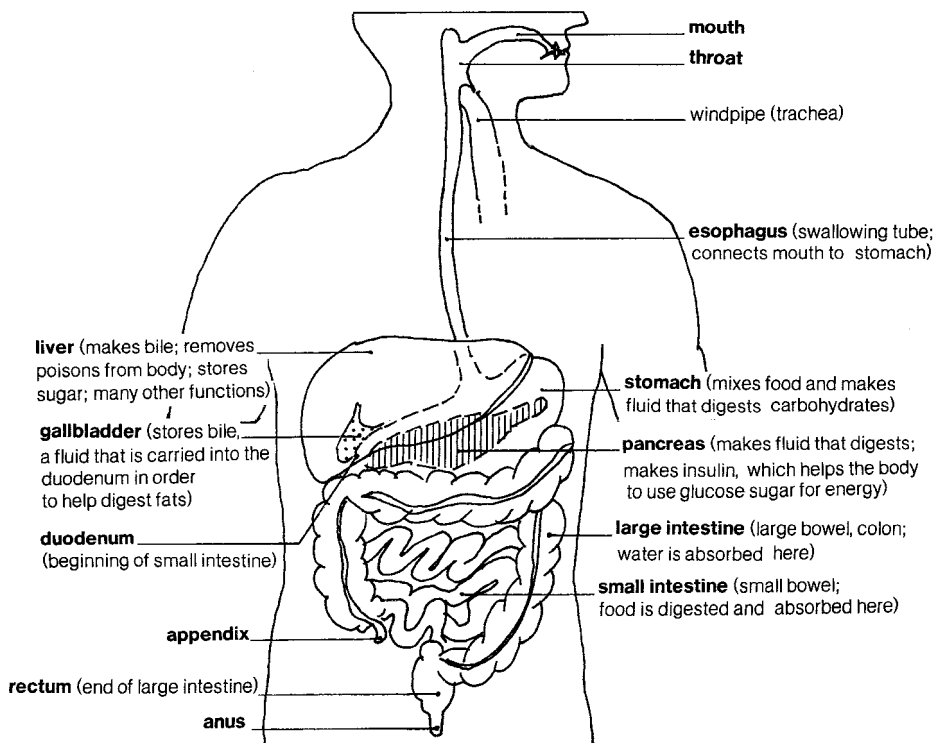
- Takes in food.
- Digests food and gets it ready to be absorbed into the blood.
- Puts out solid waste (bowel movement).

ABDOMEN: NORMAL ANATOMY

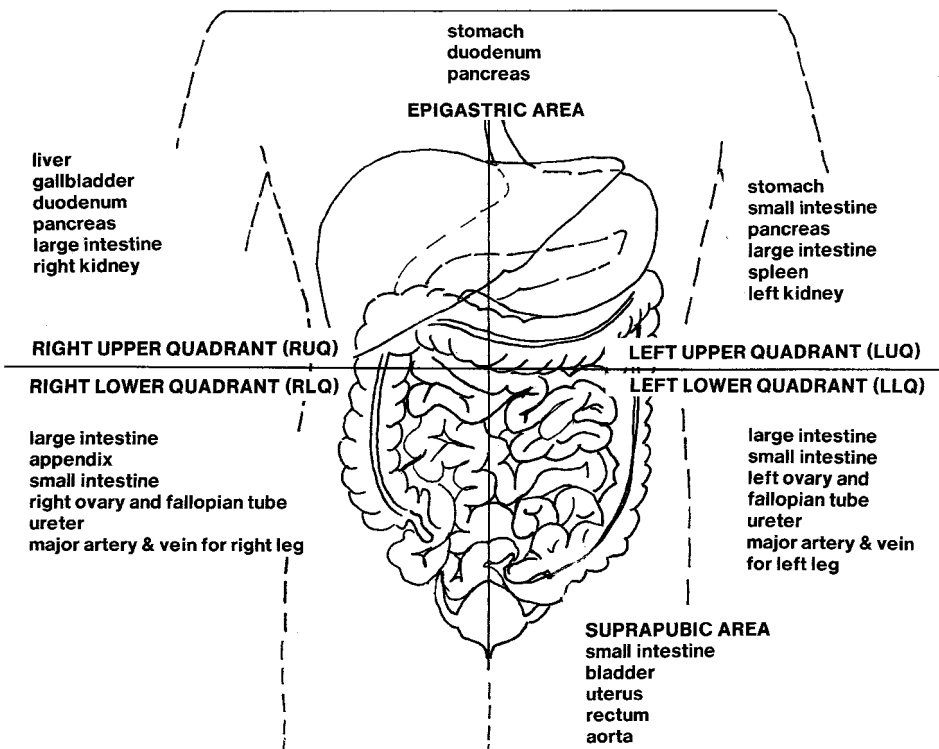
The abdomen can be divided into certain areas, which are used when you make an assessment and report:



Areas of the abdomen.

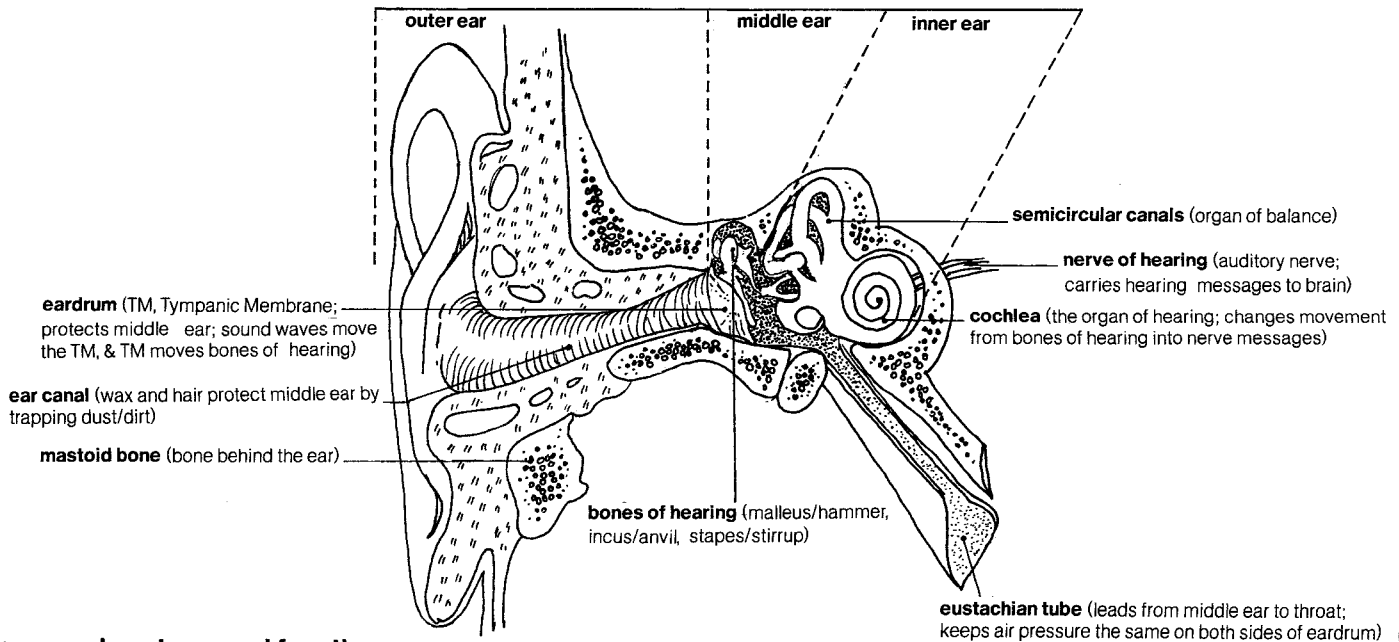


Digestive system: normal anatomy and function.



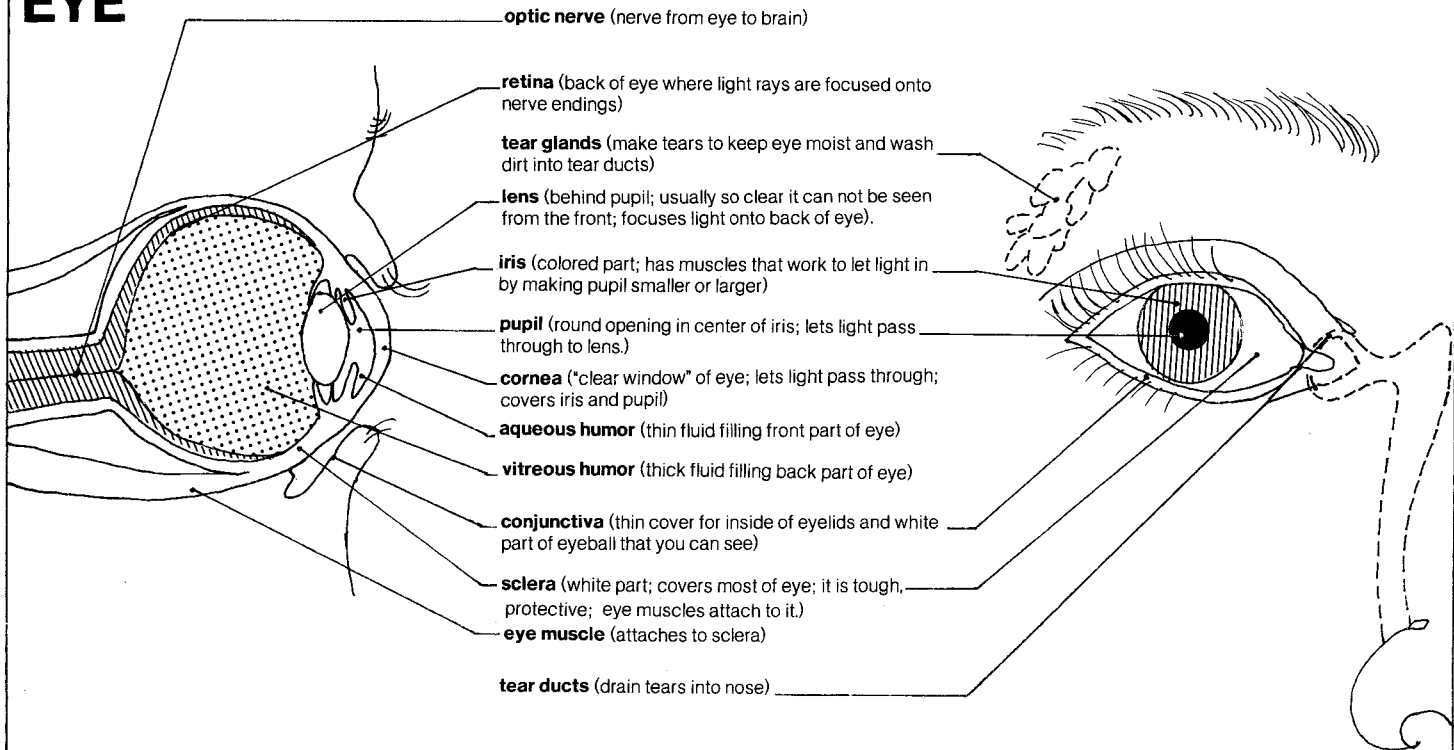
Organs found in different areas of abdomen.

EAR



Ear: normal anatomy and function.

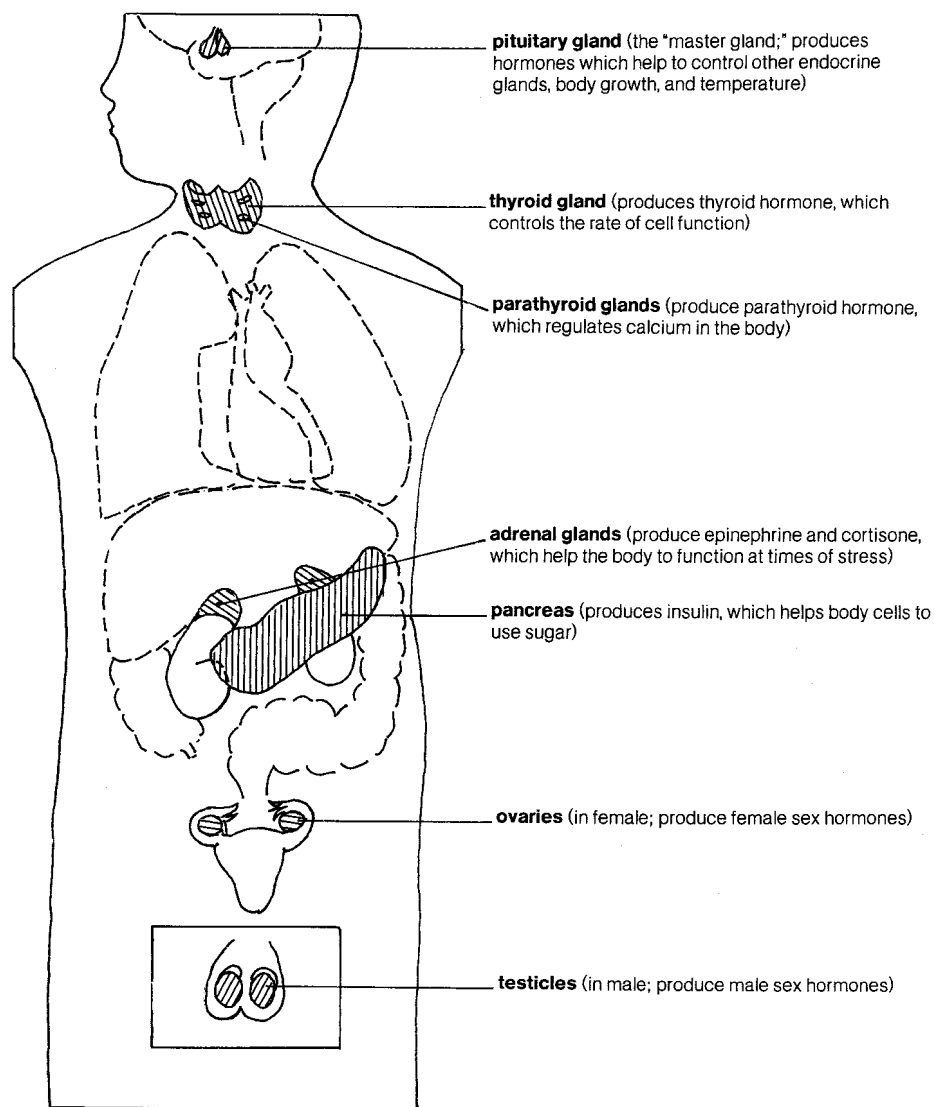
EYE



The Eye: Normal anatomy and Function

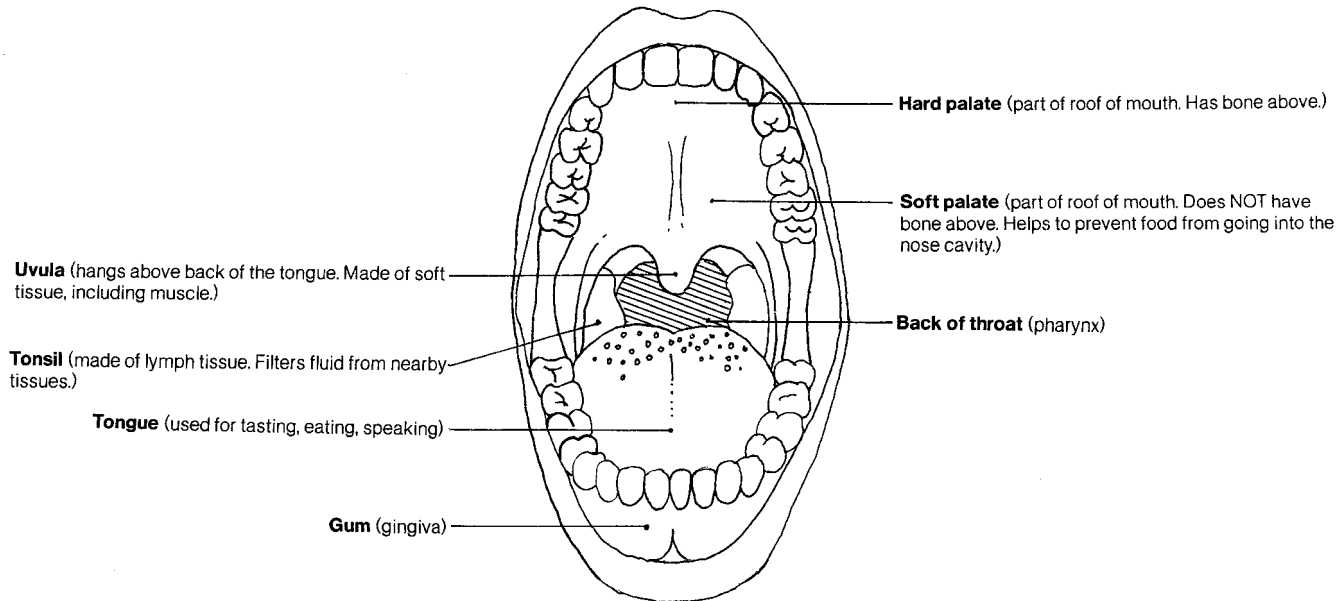
ENDOCRINE SYSTEM:

The endocrine system is the body system that produces chemicals (hormones) which help to regulate most body functions.



Endocrine system: normal anatomy and function.

THE MOUTH



TEETH

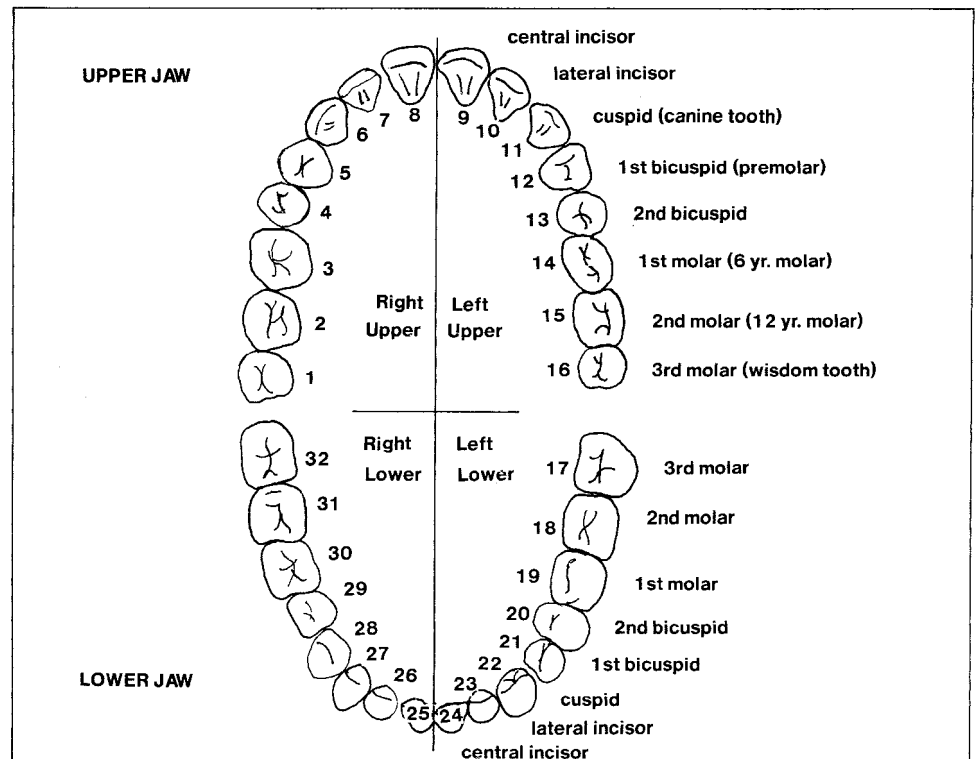
A tooth can be named in two main ways, as in the picture below:

- By using its number. Use this way to name teeth, if possible.
- or—
- By referring to its location in the mouth and its name:
 - ☐ by quadrant, when the mouth is divided into 4 quadrants, and
 - ☐ by name. Each quadrant has one of each kind of tooth.

Types of Teeth

Teeth have different shapes in order to do different jobs.

- Incisors, at the front of the mouth, have a cutting edge. They are used to bite off pieces of food.
- Cuspids (canine or "dog teeth") have pointed crowns. They tear food.
- Bicuspids and molars have flatter crowns. They are used for grinding the food.

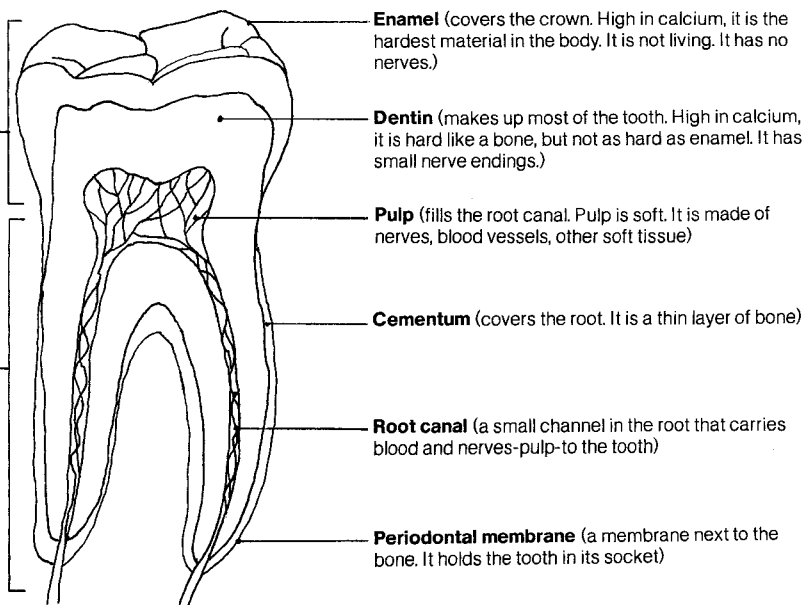


Parts of a Tooth

A tooth is made of living tissue. Inside a tooth there is a nerve and blood vessels.

Crown (the whole top of the tooth. The part of the tooth seen above the gum line)

Root (the bottom of the tooth. The part of the tooth below the gum line)



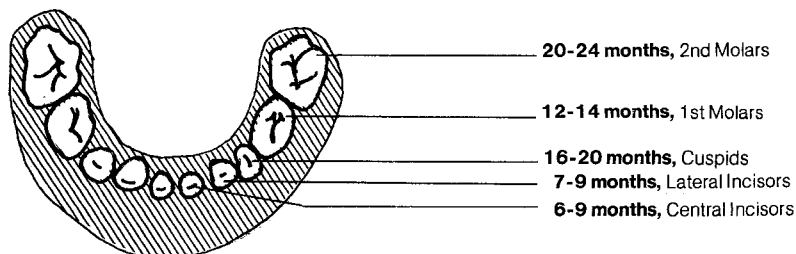
TEETH: DEVELOPMENT

Primary or "Baby" Teeth

These teeth form in the jaw while the baby is still in the uterus.

They usually erupt (begin to show above the gum line) when the child is about 6 or 7 months old.

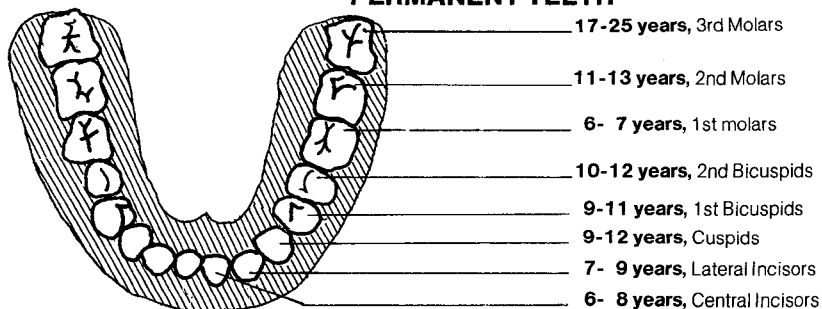
USUAL AGE FOR ERUPTION OF PRIMARY TEETH



Permanent Teeth

The permanent teeth start to form in the jaw close to the time of birth. These teeth do not erupt until about the age of 6 or 7.

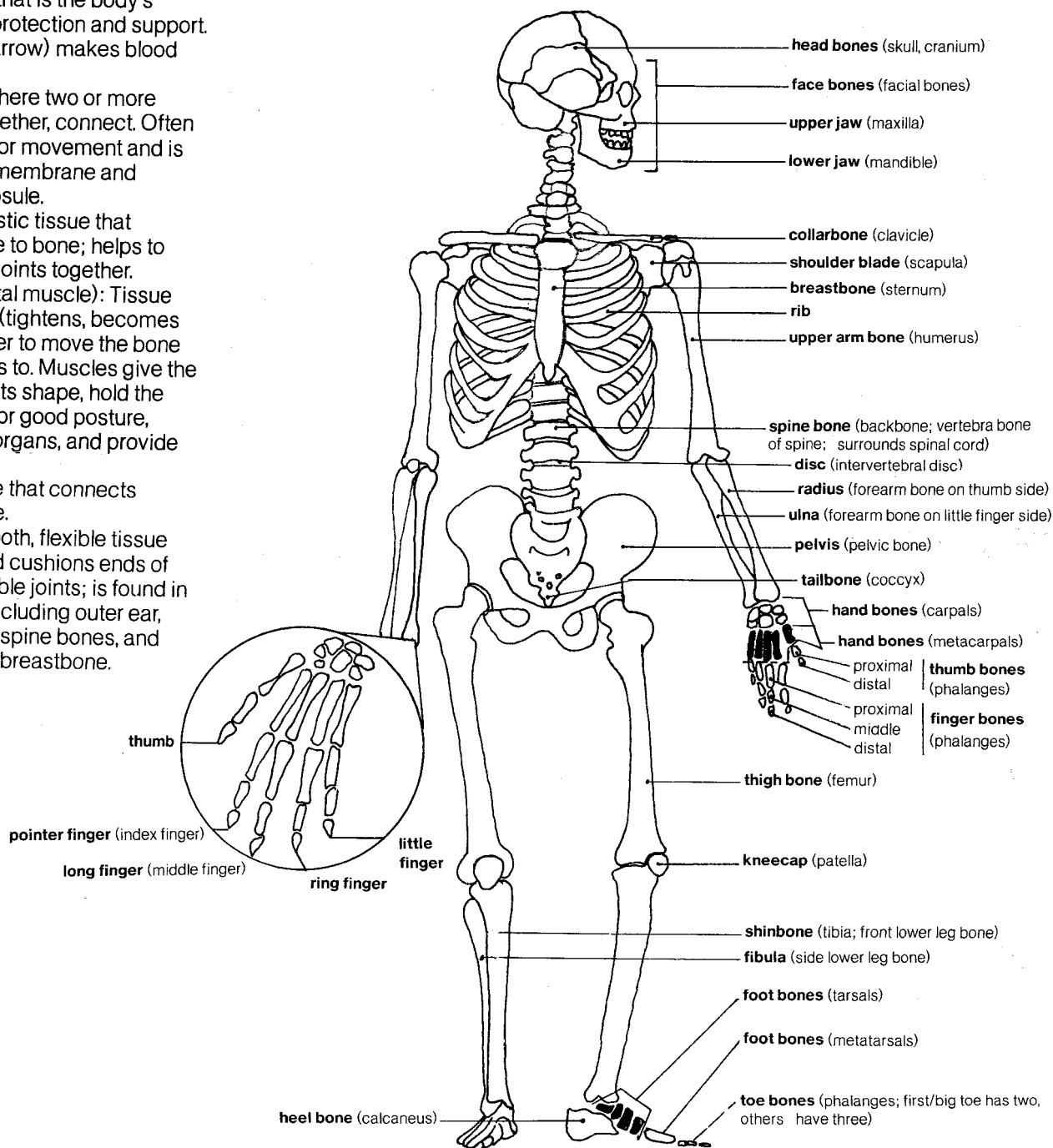
USUAL AGE FOR ERUPTION OF PERMANENT TEETH



MUSCULOSKEL ETAL SYSTEM

The musculoskeletal system is the body system that is made up of muscles and bones, plus other tissues that connect the two. This system includes the following:

- **Bone:** Tissue that is the body's frame; gives protection and support. Inner part (marrow) makes blood cells.
- **Joint:** Place where two or more bones join together, connect. Often a joint allows for movement and is covered by a membrane and protective capsule.
- **Ligament:** Elastic tissue that connects bone to bone; helps to hold movable joints together.
- **Muscle (skeletal muscle):** Tissue that contracts (tightens, becomes shorter) in order to move the bone that it connects to. Muscles give the body some of its shape, hold the body straight for good posture, protect some organs, and provide body heat.
- **Tendon:** Tissue that connects muscle to bone.
- **Cartilage:** Smooth, flexible tissue that covers and cushions ends of bones in movable joints; is found in other places, including outer ear, nose, between spine bones, and where ribs join breastbone.

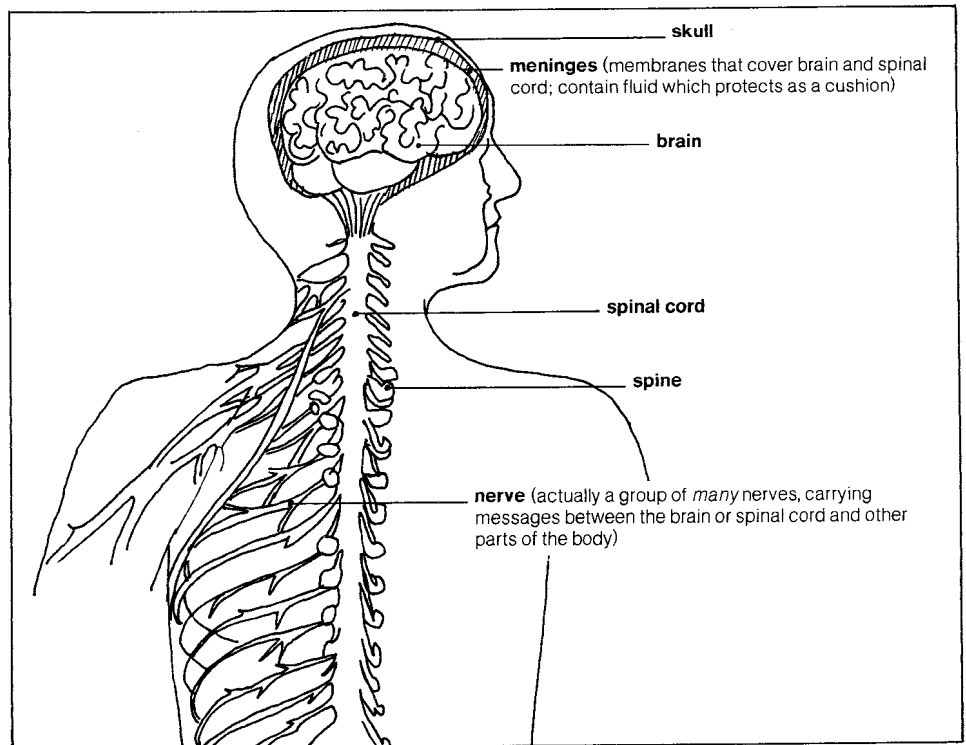


Musculoskeletal system: bones.

THE NERVOUS SYSTEM

The nervous system is the body system that controls and balances most of the body's activities. This system is made up of many nerve cells grouped to form:

- Central nervous system (CNS):
 - brain, the central "computer" for the body. It has many different sections, which do different jobs. Each side of the brain controls movement on the opposite side of the body.
 - spinal cord, carries electrical "messages" between the brain and other nerves in the body. Also is the center for some of the body's reflexes.
- Other nerves, reach outside the central nervous system to the rest of the body. May carry "messages" for one of the following:
 - feeling (sensation).
 - muscle movement.
 - control of "automatic" things: breathing, blood pressure, digestion, many others.



REPRODUCTIVE AND URINARY SYSTEMS

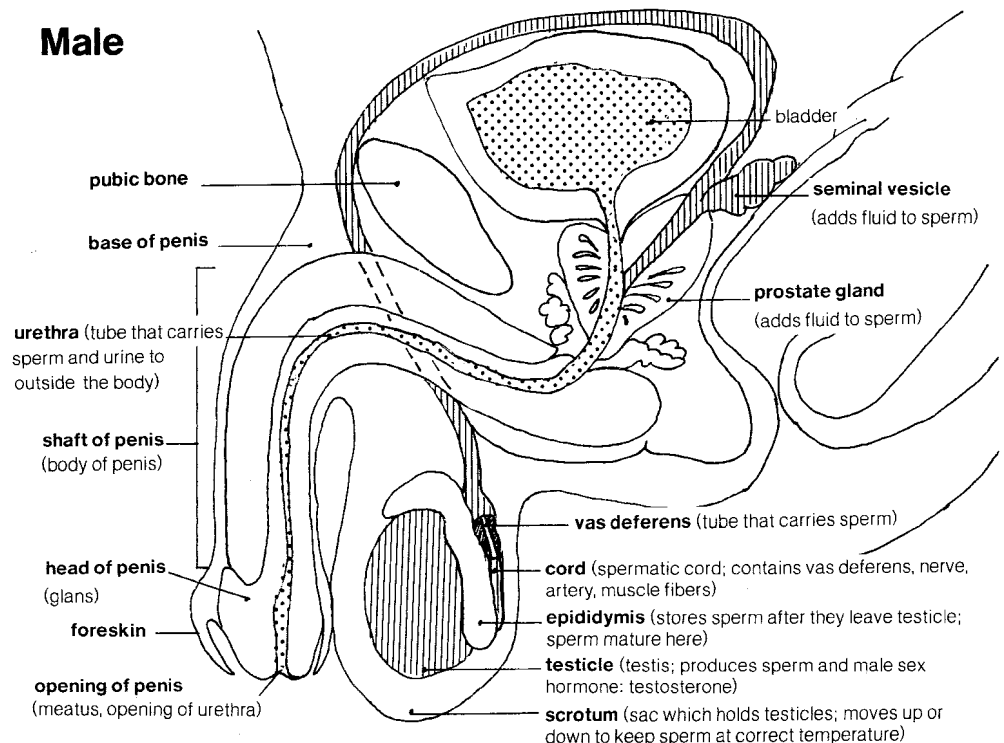
Reproductive (genital) system + urinary system = genitourinary system.

REPRODUCTIVE SYSTEM

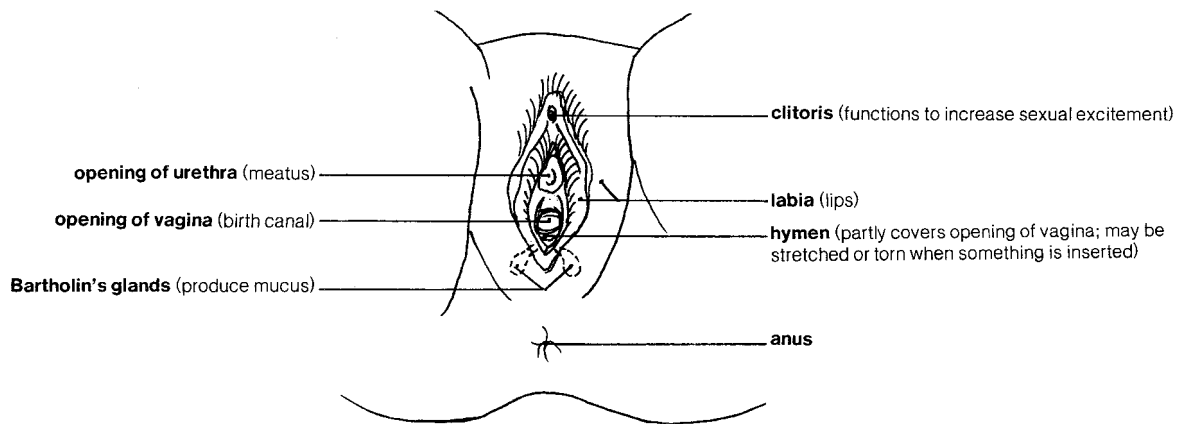
The reproductive system is the body system that makes it possible to have children.

- This system begins to function at the time of puberty, about age 9-16 years.
- For information about normal female menstrual cycle, see p.122.
- For information about normal anatomy of pregnancy, see p.151.

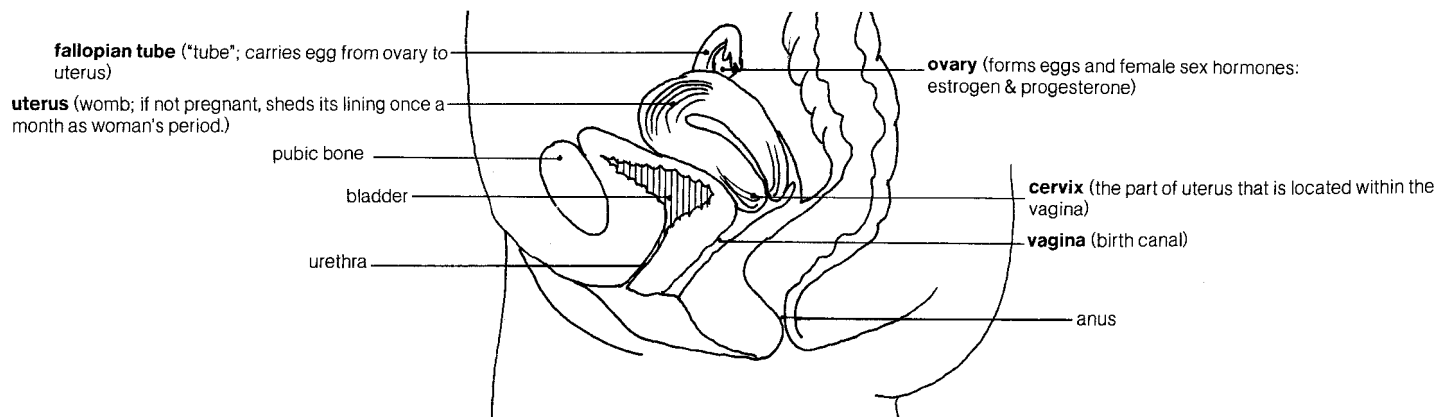
Male



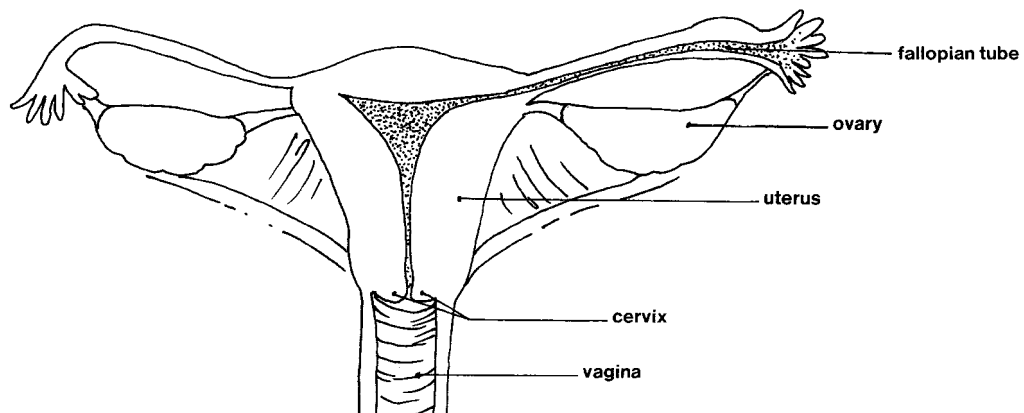
Female



Female genitals: normal anatomy and function.



Internal female reproductive system: normal anatomy and function.

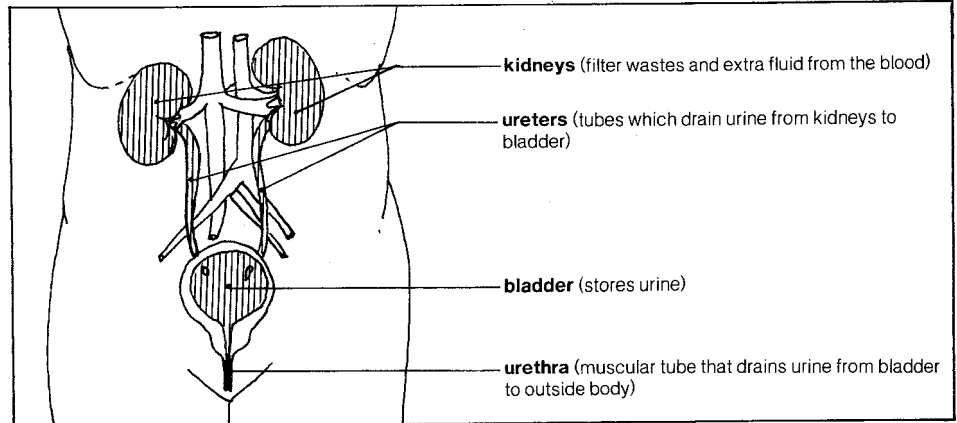


Internal female reproductive system: normal anatomy.

URINARY SYSTEM

The urinary system is the body system that:

- Filters wastes from the blood, and eliminates those wastes from the body as urine.
- Controls amount of fluid in body.



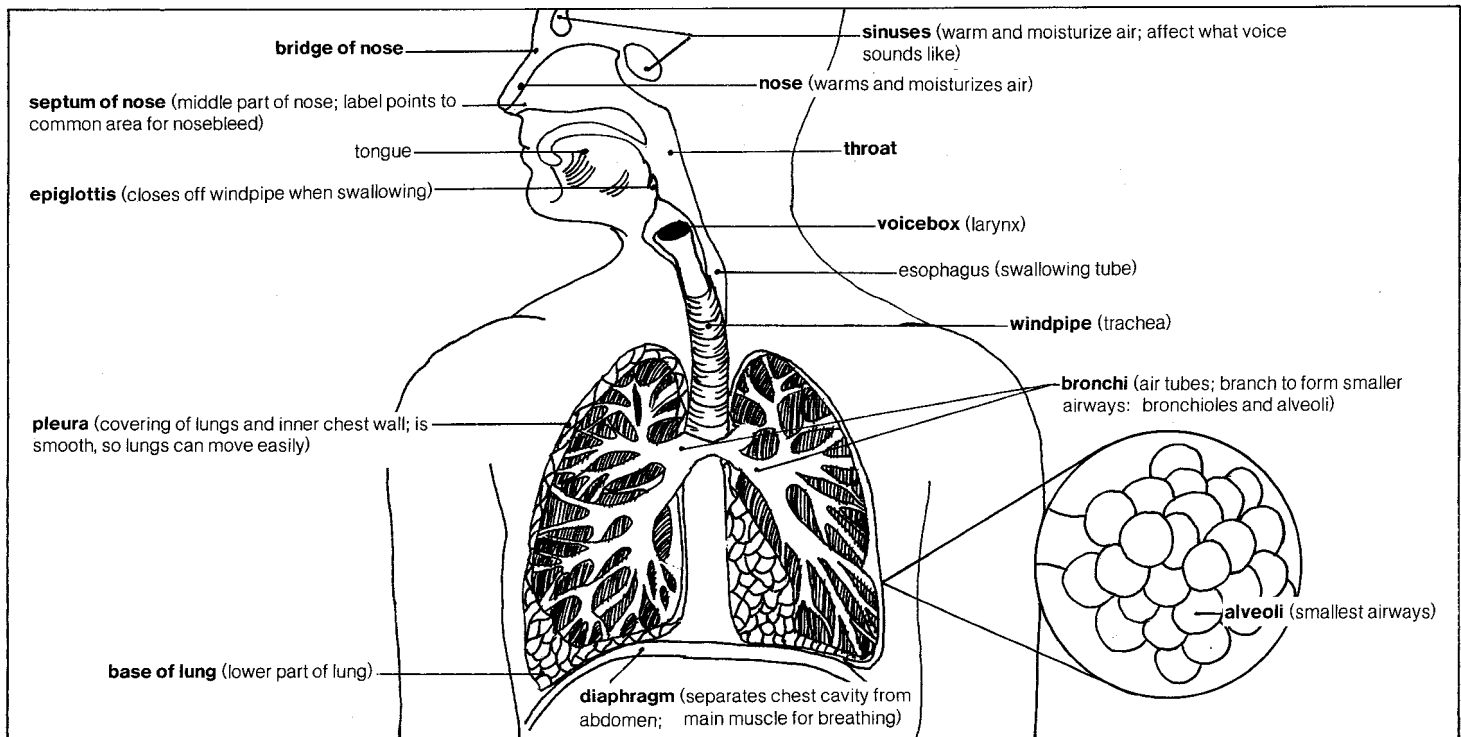
Urinary system: normal anatomy and function.

RESPIRATORY SYSTEM:

The respiratory system is the body system that passes air between outside of the body and the bloodstream.

- When a person breathes in, oxygen moves into the lungs.

- In the smallest airways of the lungs (alveoli), oxygen is exchanged with carbon dioxide in the blood.
- When a person breathes out, carbon dioxide moves out of the lungs.



Respiratory system: Normal anatomy and function.

SOAP RECORDING & REPORTING

General Approach

When you see a patient, use the following guidelines to write down (record) and report the information you gather:

- Organize the information as in this section.
- Be brief, but be complete.
 - ☐ include important normal findings as well as abnormal.
 - ☐ write down patient's name, date and time seen, your signature, and other information according to guidelines in your region.
- Be confidential.
 - ☐ do NOT discuss patient with *anyone* except other health care providers.
 - ☐ keep SOAP notes in locked file cabinet.
- Use this manual to make sure you have all the information needed.

1. S = Subjective Information

1.1 This is information from patient's history:

- History for a specific problem, or
- Complete history (p.364).

1.2 *If you get history from someone other than patient*, write down who is giving you the information.

1.3 *If patient has more than one chief complaint:*

- Write down history of present illness information separately for each complaint.

1.4 Write information down in this order:

- Chief complaint.
- History of present illness.
- Other history, if needed:
 - ☐ past health history, including allergies and current medicines.
 - ☐ review of body systems.
 - ☐ family health history.
 - ☐ personal/social history.

2. O = Objective Information

2.1 This is information from your exam: what you see, hear or feel.

2.2 Unless your form has special places to write certain information, write it down in this order:

- General appearance.
- Vital signs.
- Other physical exam.
 - ☐ if normal, write this down.
 - ☐ if abnormal, describe. If appearance is hard to describe, it may help to make a drawing.
- Lab test results.

3. A = Assessment

3.1 This is what you think patient's problem is, the diagnosis.

- It includes if you think patient is normal.

3.2 Should be brief; two or three words.

3.3 Can be specific (such as "appendicitis") or general (such as "abdominal pain").

- Should be as specific as possible.
 - ☐ use this manual to help you make a specific assessment.
- It is understood that in many cases your assessment is "probable," NOT proven.
 - ☐ you can write the assessment as "probable," if you like.

3.4 Your assessment should include anything you have found that you think is a problem for the patient.

- If you make more than one assessment, number the assessments.

4. P = Plan

4.1 This is what you think should be done for the assessment.

- It includes how to treat or correct the problem.

4.2 If you have more than one assessment:

- Make a plan for each assessment.
- Number each plan.
 - ☐ give each assessment and its plan the same number.

4.3 Plan should include the following that apply:

- Reporting to referral doctor.
- Emergency transport to hospital.
- Special care such as dressings and bandages.
- Patient education, including giving information about what the problem is, diet, exercise, and prevention.
- Medicine, including dose.
- Advice on when to recheck.
- Anything else you do or want the patient to do for himself.

4.4 Use this manual to be sure your plan is complete.

5. Reporting

5.1 Finish your history and exam before you report, unless this manual tells you to report sooner.

5.2 Write your SOAP note before you report, unless this is an emergency. Use your SOAP note to help you report.

5.3 What patients should you report?

- In general, you should report if:
 - ☐ patient has a lot of pain or looks very sick.
 - ☐ you can NOT find an assessment and plan in this manual.
 - ☐ the plan in this manual tells you to report.
 - ☐ you suspect abuse or neglect.
 - ☐ you have a question, no matter how simple the problem is.
- Report a high-risk patient when he is ill. Even if an illness seems minor, it may be serious in this patient. High risk patients include patients with chronic disease. Examples of high-risk children include those children with history of the following:
 - ☐ hospitalized in intensive care as newborn and is still less than age one.
 - ☐ adrenogenital syndrome (congenital adrenal hyperplasia).
 - ☐ surgery ("shunt") for hydrocephalus.
 - ☐ heart disease.
- Report other patients according to guidelines in your region.
 - ☐ you do NOT have to report if doctor has signed for you to treat a problem without contacting him.

- ☐ if you do NOT report, it may be good to send a copy of your SOAP note to the doctor.

5.4 When should you report?

- If an emergency, report as soon as possible.
 - ☐ it is often best to begin treatment as someone else contacts the doctor.
- If NOT an emergency, report once a day. If you have scheduled medical traffic, report during that time.

5.5 Report as follows:

- Only report patients you checked yourself.
 - ☐ in an emergency, someone else may take the time to contact the doctor, but you should do the reporting, if possible.
- Report your sickest patients first.
- Report each patient in the following order:
 - ☐ name and hospital chart number, if needed.
 - ☐ age, sex, and chief complaint.
 - ☐ short history of present illness.
 - ☐ include past health history and other history *only* as they apply to the present problem.
 - ☐ PAUSE here for doctor's questions.
 - ☐ general appearance.
 - ☐ vital signs.
 - ☐ physical exam of the problem area of the body.
 - ☐ PAUSE here for questions.
 - ☐ your assessment.
 - ☐ your plan:
 - what you have started to do.
 - what you think should be done.

5.6 If you have a special concern about a patient, tell the doctor. For example, tell the doctor if:

- You think patient needs emergency care at hospital.
- You do NOT know how to do something in the plan.
- You think the plan in this manual is wrong for patient.
- You think doctor's plan is wrong for patient.
 - ☐ talk privately. You may need to remind the doctor to use this manual if possible.
 - ☐ if you still disagree with doctor, you may decide to talk with doctor's supervisor.

- ☐ remember that, in the end, the doctor's plan is the one you should follow.

5.7 After you report, write down doctor's name and suggestions.

COMMON ABBREVIATIONS

ā	= before
AANHS	= Alaska Area Native Health Service
A.B.	= State Aide to the Blind
abd.	= abdomen
a.c.	= before meals
ACCA	= Alaska Crippled Children Association
ADH	= Alaska State Division of Health
AFDC	= State Aid to Family with Dependent Children
AFP	= Alpha Feto Protein (blood test)
ANMC	= Alaska Native Medical Center
AOM	= Acute Otitis Media
API	= Alaska Psychiatric Institute
approx.	= approximately
ARC	= American Red Cross
ASA	= aspirin
ASAP	= As Soon As Possible
BCLS	= Basic Cardiac Life Support
BCP	= Birth Control Pill
BIA	= Bureau of Indian Affairs
b.i.d.	= two times a day
BM	= Bowel Movement
BOM	= Bilateral (both sides) Otitis Media
BP	= Blood Pressure
BS	= Bowel Sounds, Breath Sounds, Blood Sugar
B.wt.	= birth weight
ċ	= with
Ca	= Cancer, Calcium
cap	= capsule
CC	= Chief Complaint
cc.	= cubic centimeter
CHA	= Community Health Aide

CHAM	= Community Health Aide Manual
CHAP	= Community Health Aide Program
CHA/P	= Community Health Aide/Practitioner
CHF	= Congestive Heart Failure
CHP	= Community Health Practitioner
C/O	= Complaining Of
CO ₂	= carbon dioxide
COLD	= Chronic Obstructive Lung Disease
COM	= Chronic Otitis Media
COPD	= Chronic Obstructive Pulmonary Disease
CVA	= Cerebrovascular Accident (stroke); Costovertebral Angle (on back, where ribs meet spine)
CXR	= Chest X-Ray
DA	= Disability Assistance; District Attorney
D/C	= Discontinue
DDS	= Doctor of Dental Surgery (Dentist)
DJD	= Degenerative Joint Disease, osteoarthritis
DM	= Diabetes Mellitus
DMD	= Doctor of Dental Medicine (Dentist)
DML	= Daily Medical Log
D.O.	= Doctor of Osteopathy
DOB	= Date of Birth
DPW	= State Division of Public Welfare
DTP	= Diphtheria, Tetanus, Pertussis (vaccine for children)
DTs	= Delirium Tremens (severe alcohol withdrawal)
Dx	= Diagnosis
ECG	= Electrocardiogram (EKG, heart tracing)
EDC	= Estimated Date of Confinement (due date for baby)
EEG	= Electroencephalogram (brain wave tracing)
EKG	= Electrocardiogram (ECG, heart tracing)
ENT	= Ear, Nose and Throat
EOM	= Extraocular Movement (eye muscle movement)
etiol.	= etiology (cause)

ETOH	= alcohol	mg.	= milligram	q4h	= every four hours
F	= Female	MI	= Myocardial Infarction (heart attack); Mitral Insufficiency (heart murmur)	q.i.d.	= four times a day
FAS	= Fetal Alcohol Syndrome			R	= Respirations
Fe	= iron			®	= Right
FH	= Family History			RA	= Rheumatoid Arthritis
FHR	= Fetal Heart Rate	min.	= minute	RLQ	= Right Lower Quadrant (abdomen)
FHT	= Fetal Heart Tones	ml.	= milliliter		
F/U	= Follow-Up	mm.	= millimeter	R.N.	= Registered Nurse
FUO	= Fever of Unknown Origin	MMR	= Measles, Mumps, Rubella (vaccine)	R/O	= Rule Out
Fx	= Fracture			ROM	= Range of Motion
GC	= gonorrhea	mo	= month	ROS	= Review of Systems
GI	= Gastrointestinal	NAD	= No Acute Distress; No Appreciable Disease	R.Ph.	= Registered Pharmacist
Gm.	= Gram			RPR	= Rapid Plasma Reagent (blood test for syphilis)
gr.	= grain	Neg.	= Negative (-)		
gtt.	= drop	NL	= Normal	RTC	= Return to Clinic
GU	= Genitourinary	No.	= Number	RUQ	= Right Upper Quadrant
h	= hour	N.P.	= Nurse Practitioner	Rx	= drug prescription; therapy
H-BIG	= Hepatitis B Immune Globulin	NPO	= nothing by mouth	̄	= without
HBP	= High Blood Pressure	O ₂	= oxygen	s.c.	= subcutaneous
HC	= Head Circumference	OD	= right eye; Overdose	SH	= Social History
Hct.	= Hematocrit	OM	= Otitis Media	SOAP	= Subjective (history), Objective (exam), Assessment, Plan
HEENT	= Head, Eyes, Ears, Nose, Throat	OS	= left eye		
		OTC	= Over-The-Counter (medicines)	SOB	= Shortness of Breath
Hgb.	= Hemoglobin	OU	= both eyes	sol.	= solution
H ₂ O	= water	OVR	= Office of Vocational Rehabilitation	SOM	= Serous Otitis Media
H ₂ O ₂	= hydrogen peroxide			S/P	= status post
HPI	= History of Present Illness	oz.	= ounce	SQ	= subcutaneous
h.s.	= at bedtime	̄	= after	ss.	= one-half
ht.	= height	P	= Pulse	stat	= immediately, NOW
Hx	= History	P.A.	= Physician's Assistant	STD	= Sexually Transmitted Disease
IHS	= Indian Health Service	Pap	= Pap smear	SUD	= Service Unit Director
I.M.	= Intramuscular; Into the Muscle	p.c.	= after meals	Surg.	= Surgery; Surgical
		PE	= Physical Examination; Pulmonary Embolus	Sx	= Symptoms; Signs
IUD	= Intrauterine Device			Sym.	= Symmetrical (the same on both sides)
I.V.	= Intravenous; Into the Vein	PERRL	= Pupils Equal, Round, React to Light	T	= Temperature
L	= Liter	PERRLA	= Pupils Equal, Round, React to Light and Accomodation	T&A	= Tonsillectomy & Adenoidectomy
Ⓐ	= Left			tab.	= tablet
lab.	= laboratory	Pharm.	= Pharmacy	TB	= Tuberculosis
lb.	= pound	PHHx	= Past Health History	Tbsp.	= Tablespoon
LLQ	= Left Lower Quadrant (abdomen)	PHN	= Public Health Nurse	TC	= Throat Culture
LMP	= Last Menstrual Period	PHS	= Public Health Service	Td	= Tetanus and diptheria (vaccine for adult)
LNMP	= Last Normal Menstrual Period	PMH	= Past Medical History	TIA	= Transient Ischemic Attack ("pre-stroke")
LOC	= Level/Loss of Consciousness	p.o.	= by mouth, orally	t.i.d.	= three times a day
LUQ	= Left Upper Quadrant (abdomen)	Pos.	= Positive (+)	TM	= Tympanic Membrane, eardrum
M	= Male	Post-op	= after the operation	TPR	= Temperature, Pulse, and Respirations
Ⓜ	= murmur	Pre-op	= before the operation	tsp.	= teaspoon
MCH	= Maternal and Child Health	p.r.n.	= as needed; when necessary	Tx	= Treatment
M.D.	= Medical Doctor	Psych	= Psychiatry	U	= Units
meds	= medicines	PT	= Physical Therapy		
mEq.	= milliequivalent (drug dose)	pt.	= patient; pint		
		q.d.	= every day, once a day		
		qh	= every hour		
		q2h	= every two hours		

UA	= urinalysis
ung	= ointment
URI	= Upper Respiratory Infection
UTI	= Urinary Tract Infection
VA	= Veterans Administration
V.D.	= Venereal Disease
VDR	= Village Drug Reference
VS	= Vital Signs
WCC	= Well Child Clinic
WNL	= Within Normal Limits
wt.	= weight
YAA	= Youth and Adult Authority

Symbols:

-	= negative
+	= positive
♂	= male
♀	= female
†	= one
‡	= two
↓	= decrease or down
↑	= increase or up
Δ	= change

COMPLETE HISTORY AND SCREENING PHYSICAL EXAM

You do NOT have to do a complete history and physical on every patient.

Begin here if patient needs a complete history and physical.

Examples may include:

- Patient has many complaints or a confusing problem.
- Required by job or school.
- First time you have seen this patient.

COMPLETE HISTORY

Summary COMPLETE HISTORY

1. Chief Complaint and History of Present Illness.
2. Past Health History:
 - General health.
 - Illnesses.
 - Operations.
 - Other hospitalizations.
 - Serious injuries or accidents.
 - Allergies.
 - Medicines.
 - Immunizations.
 - If a woman, get female history:
 - ☐ periods.
 - ☐ birth control.
 - ☐ past pregnancies.
 - ☐ Pap.
 - If a child:
 - ☐ school.
 - ☐ birth history.
 - ☐ development.
3. Review of Body Systems:
 - General health.
 - HEENT.
 - Respiratory system.
 - Circulatory system, blood, and lymphatics.
 - Breast.
 - Digestive system.
 - Genitals (sex organs).
 - Urinary system.
 - Musculoskeletal system (muscles and bones).
 - Nervous system and mental health.
 - Hormone system.
 - Skin.
 - Other health problems.
4. Family Health History:
 - Others sick.
 - Family history of diseases.
5. Personal/Social History:
 - Habits for good health.
 - Smoking.
 - Drinking.
 - Other Drugs.
 - Friends, family, and home life.

1. Chief Complaint and History of Present Illness

1.1 Chief Complaint (CC)

- Ask patient something like, "What brings you here today?"
- Write down patient's chief complaint (the main reason why patient came to see you).
 - ☐ try to write down just a few words.
 - ☐ if possible, write down the same words patient used, with quotation marks. For example, write: Chief complaint: "Chest pains" for 3 years.
- *If patient does NOT have a health problem, now go on to "2. Past Health History."*

1.2 History of Present Illness (HPI)

Get general history of present illness (inside cover). Use the following general approach:

- If patient has more than one chief complaint:
 - ☐ ask about the most serious complaint first, then the next most serious, and so on.
 - ☐ remember to think of each complaint when you make your assessment.
- For a specific chief complaint, you may also decide to go to that problem section in this manual.

2. Past Health History (Past Medical History)

General Approach

Find out how patient's health has been in the past:

- First, review patient's chart, including problem list or computer printout from referral hospital.
- Ask patient for other information that you need.
- *If patient has had a health problem, find out more about it:*
 - ☐ when was it?
 - ☐ what was the problem?
 - ☐ what happened? What was the treatment?
 - ☐ are there problems now as a result?

2.1 General Health

Ask patient: "How has your general health been through your life?"

2.2 Illnesses

Ask patient:

- "What serious illnesses have you had?"
- "Have you ever had":
 - ☐ cancer?
 - ☐ a blood transfusion?
- "Have you ever had tuberculosis (TB)?" *If patient says he has NOT had TB, ask:*
 - ☐ "have you had a positive TB skin test (arm swelled or turned red where the test was put on)?"
 - ☐ "when was your last skin test?"
 - ☐ "have you ever taken any medicines for TB, such as INH? If so, for how long?"

2.3 Operations

Find out about all operations, including surgery for tonsils, ears.

- When was surgery?
- What was done?

2.4 Other Hospitalizations

2.5 Serious Injuries or Accidents

Ask patient: "Have you ever had any serious injuries, such as a broken bone or head injury?"

2.6 Allergies

Is patient allergic to anything, including foods, or does he have a problem when taking a certain medicine? *If so:*

- What is patient allergic to?
- What happens when patient has allergic reaction?
- What medicine has patient taken for this problem?
- Plan to report this allergy to your referral doctor. The doctor may suggest that you give patient education and follow other prevention guidelines for "Allergic Reaction" (p.8).

2.7 Medicines

What medicines is patient taking now?
For all medicines, write down:

- Name of medicine.
- Strength of medicine.
- Dose; amount patient takes.
- How often patient takes it.
- How is the medicine working? Does patient have side effects or problems?

2.8 Immunizations

- When was last TETANUS shot?
- Has patient been immunized against hepatitis B?
- What other immunizations has patient had?
- If a child, review immunization card to make sure it is up to date (p.194).

2.9 If a Woman, Get Female History

- Periods (menstrual history):
 - ☐ age when periods started?
 - ☐ how many days from first day of one period to first day of next period? Do periods come regularly, every 26-30 days?
 - ☐ how many days do periods last?
 - ☐ how much flow/bleeding is there: heavy, medium, or light?
 - ☐ any problems related to periods, such as cramping, abnormal bleeding, or spotting blood between periods?
 - ☐ date of first day of last menstrual period (LMP)? Was it normal?
 - if menopause, any spotting blood since then?
- Birth control:
 - ☐ ask her: "Are you using any birth control now?" If so, what kind?
 - ☐ ask her: "Could you be pregnant?"
 - ☐ any problems with birth control methods in the past?
- Past pregnancies:
 - ☐ number of pregnancies?
 - ☐ number of live births?
 - ☐ number of miscarriages/abortions?
- Pap: Date of last Pap smear.

2.10 If a Child

If 6 yrs. or more, ask if child is:

- Going to school?
- Having any problems at school or with school work?
 - ☐ if no school problems, now go to "3. Review of Body Systems."
 - ☐ *if school problems*, continue to ask questions as "if less than 6 yrs.," which follows.

If less than 6 yrs., ask about these extra things:

- Birth history:
 - ☐ was labor and delivery normal?
 - ☐ did baby breathe right away?
 - ☐ what was birth weight and length?
 - ☐ did baby have any problems soon after birth?
- Development: Ask questions to find out if child is developing normally. Use the developmental questions list on back of the State of Alaska's Child Health Assessment Record, as on p.189.

3. Review of Body Systems

General Approach

Ask about all parts of the body and body systems that you have not asked about already.

As you begin, tell patient:

"I am going to read to you a list of symptoms or problems. Everyone has aches and pains or other small problems from time to time. I want to know:

- Have you had serious problems with any of these things in the past that you have NOT told me about already?
- Are you bothered by any of these things now?"

If patient has a symptom:

- Find out more about it, as you did with the chief complaint.
- Decide if you think it is a problem for the patient.

3.1 General Health

- Feeling sick, weak, tired?
 - ☐ if a baby: fussy?
- Fever or chills?
- Weight change: loss or gain?
- Sweating a lot? If so, when?

3.2 HEENT (Head, Eyes, Ears, Nose, Throat)

Problems with:

- Head, including:
 - ☐ headache?
 - ☐ feeling dizzy?
- Eyes, including change in vision?
- Ears, including hearing loss?
- Nose or sinus area?
- Mouth, teeth, throat?
- Neck?

3.3 Respiratory System

- Stuffy nose? Runny nose?
- Cough? If so:
 - ☐ lasting longer than one month?
 - ☐ coughing up anything?
- Shortness of breath? If so, when?
 - ☐ when exercising?
 - ☐ when lying down?
- Lung disease such as asthma, bronchitis, pneumonia?

3.4 Circulatory System, Blood, and Lymphatics

- Heart trouble, such as:
 - ☐ heart pains (angina), heart attack?
 - ☐ heart failure?
 - ☐ abnormal heartbeat (palpitations)?
 - ☐ rheumatic fever?
- Chest problem: pain, tightness, or discomfort? If so:
 - ☐ where?
 - ☐ when?
 - when exercising?
 - when taking a deep breath?
- High blood pressure?
- Swelling (ankles, feet)?
- Big leg veins (varicose veins)?
- Blood clot in the leg veins or lungs?
- Anemia (low hemoglobin)?
- Swollen lymph nodes?

3.5 Breast

- Lump or sore?
- Discharge or bleeding from nipple?
- Change in skin, nipple, or size of breast?
- Pain?

3.6 Digestive System

- Loss of appetite?
- Nausea or vomiting? If vomiting, what does the vomit look like?
- Trouble swallowing (solids, liquids)?
- “Heartburn” or indigestion? If so, do certain foods make this happen, such as fatty or spicy foods?
- Abdominal pain?
- Problems with gas, such as:
 - ☐ burping?
 - ☐ passing gas (farting)?
- Change in bowel movements, such as:
 - ☐ constipation?
 - ☐ diarrhea?
 - ☐ blood in bowel movement?
 - ☐ change in size, shape, color, or number per day?
- Other problems with:
 - ☐ stomach (ulcer)?
 - ☐ gall bladder?
 - ☐ liver (hepatitis)?
 - ☐ bowels, rectum?
 - ☐ anus (hemorrhoids)?

3.7 Genitals (Sex Organs)

- A sore, rash, or growth on genitals?
- Discharge?
- History of V.D. (gonorrhea, syphilis, other)?
- Pain with intercourse?
- Other problems?

3.8 Urinary System

- Cloudy or bloody urine?
- Problems with urinating, such as:
 - ☐ feeling the need to urinate often or rush to the toilet?
 - ☐ pain or burning when urinating?
 - ☐ difficulty urinating or getting started?
- Back pain, in kidney area?

- Other problems, such as:
 - ☐ kidney disease?
 - ☐ kidney stones?
 - ☐ infections?
 - ☐ large prostate gland?

3.9 Musculoskeletal System (Muscles and Bones)

- Muscle cramps?
- Joint pain or swelling (arthritis)?
- Other problems with muscles, joints, bones?

3.10 Nervous System and Mental Health

- Feeling faint (light-headed) or fainting (passing out)?
- Coordination or balance problems?
- Trouble talking?
- Numbness, tingling, weakness, or trouble moving an arm, leg, or other part of the body?
- Seizures (convulsions)?
- Stroke or other brain/nerve problems?
- “Shakes” or DTs from alcohol?
- Mental health problems, such as:
 - ☐ feeling very nervous (anxious)?
 - ☐ having lots of worries, stress?
 - ☐ feeling angry?
 - ☐ feeling sad?

3.11 Hormone System (Endocrine, Regulatory System)

- Symptoms of diabetes, such as being very thirsty or urinating more than normal?
- Thyroid disease?
- Other problems related to glands or hormones?

3.12 Skin

- Rash?
- Itching?
- Yellow skin color (jaundice)?
- Sore not healing?
- Change in a mole?
- Growths, lumps or bumps?
- Other problems with skin?

3.13 Other Health Problems

Ask patient: "Do you have any other health problems that we have not talked about?"

4. Family Health History (Family History)

4.1 Others Sick

Is anyone else sick at home? With the same problem? If so, find out more, as you did with patient's chief complaint.

4.2 Family History of Diseases

If patient has family history of disease, find out more: who had the disease and what happened?

- Are there any illnesses that run in the family?
- Diseases: Does any close relative (including aunts and uncles) have any of the following:
 - ☐ allergies?
 - ☐ migraine headaches?
 - ☐ seizures?
 - ☐ glaucoma?
 - ☐ TB, asthma, or other lung disease?
 - ☐ heart disease or high blood pressure?
 - ☐ stomach ulcer?
 - ☐ hepatitis?
 - ☐ kidney disease?
 - ☐ arthritis?
 - ☐ stroke?
 - ☐ diabetes?
 - ☐ alcohol problems?
 - ☐ mental illness?
 - ☐ cancer? If so, what kind?

5. Personal and Social History

5.1 Habits for Good Health

What does patient do to stay healthy?

- Diet. Ask about patient's normal diet:
 - ☐ if a baby, ask questions on p.188.
 - ☐ for other patients, does patient eat a well-balanced diet, with foods from the four food groups every day (p.444)?
 - if needed, use 24 hour food recall form (p.447).
- Exercise?
- Brush teeth?
- Other wellness habits (p.441)?

5.2 Using Tobacco

Does patient smoke or chew tobacco?

If so, find out more. For example:

- How many packs per day?
- For how many years?

5.3 Drinking Alcohol or Taking Illegal ("Street") Drugs

- Ask about patient's drinking:
 - ☐ when does patient usually drink? How often?
 - ☐ what kind of alcohol does patient drink (whiskey, beer, wine, other)?
 - ☐ what amount (how much) does patient usually drink each time?
- Does patient take any illegal ("street") drugs?
 - ☐ ask about:
 - marijuana?
 - cocaine?
 - speed?
 - other drugs or "substances"?
 - ☐ if so, find out:
 - what does patient take?
 - when? How often?
 - what amount?

5.4 Friends, Family and Home Life

- If possible, find out if there are problems, with:
 - ☐ job or school?
 - ☐ home?
 - ☐ friends?
 - ☐ family or marriage?
 - ☐ finances (money troubles)?
 - ☐ recent death or sickness?
- If you do not already know, ask about the house where patient lives:
 - ☐ number of people? Is anyone at

home to help patient when he is sick?

- ☐ water source?
- ☐ heating methods?
- ☐ sewage disposal?

SCREENING PHYSICAL EXAM

A screening physical exam is a general exam of the whole body. It is done in order to:

- Screen a patient for problems.
- Get to know what is normal for the patient.

General Approach

Examine in a warm, quiet place.

Undress as needed:

- Have patient remove shoes and socks.
- Have patient uncover the area you are examining.
- Give patient a drape to cover himself when you are not examining.

As you examine, do the following:

- If possible, always examine in the same order, so you will remember to check everything.
- If you know that a part of the exam is NOT needed for a patient, you do not have to do that part.
- If something is abnormal:
 - ☐ do a more complete exam of that part of the body. You may need to go to another section of this manual:
 - physical exam reference section.
 - problem section.
 - ☐ write it down; describe it.
 - ☐ plan to report it to your referral doctor.

Exam

Examine as in chart A.

Screening Physical Exam

1. **General Appearance:** Healthy, sick, weak, pale, short of breath, other?
2. **Vital Signs:** T, P, R, BP.
3. **Height and Weight:** Up to age 3, also measure head circumference.
4. **Head:**
 - Look closely.
 - Feel scalp; if infant, include soft spot.
5. **Eyes:**
 - Look at each part. Note pupils: Equal in size? Round? React to light?
 - Eye muscles: Do eyes move OK in all directions?
6. **Ears:** Look at outer ear, ear canal, eardrum.
7. **Nose:** Appearance.
8. **Mouth and Throat:** Lips, teeth, gums and mucous membranes, tongue, throat.
9. **Neck:** Feel for lymph nodes, other lumps, pulses, thyroid.
10. **Chest, Back, and Lungs:**
 - Appearance: Skin, scars; shape; breathing.
 - Breath sounds:
 - ☐ of normal loudness, or quieter than normal?
 - ☐ clear or with rales (crackles), rhonchi (snoring sounds), wheezes?
11. **Heart:** Listen in several places.
 - Heart rhythm. *If NOT regular:* describe it; count heart rate (apical rate).
 - Heart sounds: Normal? Murmur?
12. **Breasts:**
 - Appearance, including nipples.
 - Feel for lymph nodes in armpit area; feel for breast lumps.
 - Nipples: Press and gently squeeze to check for discharge or blood.
13. **Abdomen:**
 - Appearance: Skin, scars; shape.
 - Bowel sounds.
 - Feel lightly, then deeper for:
 - ☐ tenderness/lumps.
 - ☐ liver (on right) and spleen (on left). *If you feel either,* measure, in line with nipple: how far below ribs you feel it; size, by percussion.
 - Feel in the groin for lymph nodes, pulse.
14. **Arms and Legs:**
 - Appearance. *If abnormal,* feel soft tissues, bones; check joint movement.
 - Pulses: Compare one side of body to other at wrist, top of foot (DP).
15. **Genitals and Anus:**
 - Appearance.
 - If adult female, do pelvic exam if you have been taught.
 - If male:
 - ☐ scrotum: feel each testicle, nearby area, and cord.
 - ☐ feel for hernias.
16. **Nervous System:**
 - Mental status (mind): How is patient acting?
 - Movement & strength: Check grasp; bending/straightening elbows, knees.
 - Feeling with light touch: Equal on both sides? Check face, arms, legs.
 - Tendon reflexes: at knee and in front of elbow.
 - Coordination: Does patient walk and coordinate other movements OK?
17. **Skin.** *If skin problem:* Look closely and feel; describe correctly.
18. **Health Surveillance,** if due: Vision (Snellen), hearing test, hemoglobin, Pap smear, immunizations, others (p.441).

EXAM: GENERAL APPEARANCE

General appearance is your overall impression of the patient.

- You should include something that seems to stand out, is noticeable.
- You may mention part of the body if it seems especially abnormal.

General appearance includes how awake the patient is (level of consciousness). For example, is he:

- Conscious (awake) and alert?
- Sleepy or confused?
- Unconscious? If unconscious, now go to p.275, "Unconscious Patient."

Other examples of general appearance include the following:

- Healthy.
- Sick.
- Looks in pain.
- Obvious injury.
- Overweight.
- Thin.
- Looks older than age.
- Weak, tired.
- Sweaty.
- Abnormal position, such as bending over and holding abdomen.
- Abnormal skin color, such as:
 - ☐ pale.
 - ☐ yellow color of skin and white part of eyes (jaundice).
 - ☐ blue color of lips/nails (cyanosis).
- Short of breath, including:
 - ☐ seems to be working hard to breathe.
 - ☐ must sit up to breathe.
 - ☐ grunting when breathing out.
- Nervous, anxious, afraid.
- Sad, crying.
- Angry.
- Smell of alcohol on breath.

VITAL SIGNS

Vital signs (V.S.) are signs of life. Checking vital signs is one of the best ways to tell if patient is well or sick.

Before you begin:

- Have patient rest comfortably in a private area.
- Wash hands and get your equipment ready.
- Explain what you are doing.

TEMPERATURE (T)

General Approach

Keep oral and rectal thermometers in separate containers.

- Oral thermometers:
 - ☐ blue dot on end.
 - ☐ used in mouth and armpit.
- Rectal thermometers:
 - ☐ red dot on end.
 - ☐ used in rectum.

Care of thermometers:

- After use put thermometer in container of cool soapy water.
- At end of day:
 - ☐ wash in cool soapy water.
 - ☐ dry.
 - ☐ place in ALCOHOL overnight.
- Rinse off with cool water and dry before use.

1. Decide Where to Take Temperature

1.1 Oral temperature.

- Taken on:
 - ☐ alert patient.
 - ☐ child age 6 or more.
 - ☐ child age 3 or more, if you *know* he understands and will NOT bite thermometer.
- NOT taken on:
 - ☐ unconscious patient.
 - ☐ sleepy or confused patient.

- ☐ patient with shortness of breath (respirations more than 20; patient breathes fast through mouth and cools thermometer).
- ☐ child less than age 3.

1.2 Rectal temperature.

- Taken on:
 - ☐ unconscious patient.
 - ☐ sleepy or confused patient.
 - ☐ child less than age 3.

1.3 Axillary (armpit) temperature.

- Taken on patient when you can not take oral or rectal temperature.

2. Shake Down Thermometer

Shake down until thermometer reads less than:

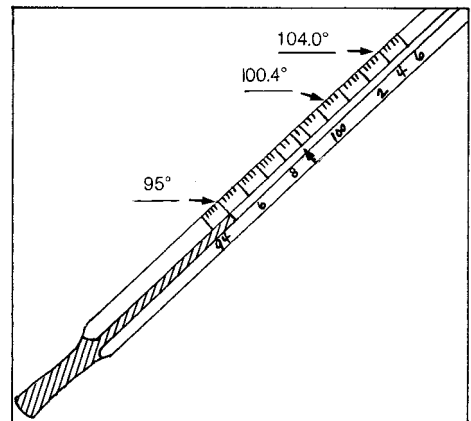
- 96°F for oral or rectal.
- 94°F for axillary.

2.1 To shake down thermometer:

- Hold top of thermometer firmly between thumb and first two fingers.
- Shake at your wrist as though shaking water off your hand.

2.2 To read thermometer:

- Understand the scale, as in next drawing.
- Hold thermometer straight, at eye level.
- Slowly turn thermometer back and forth a small amount, until you see a silver streak along the scale.
- Read the line closest to end of silver streak.
 - ☐ each long line is 1 degree.
 - ☐ each short line is 0.2 degree.

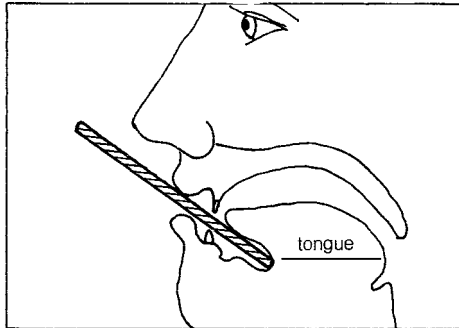


This thermometer reads 95°.

3. Take the Temperature

3.1 Oral Temperature

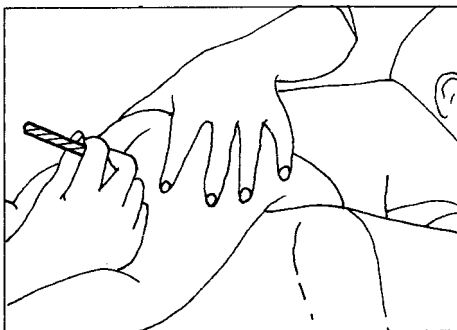
- [1] If patient just had a hot or cold drink, wait 10-20 minutes before taking temperature.
- [2] Place thermometer on side of mouth under patient's tongue.
 - Have patient gently close teeth and lips around thermometer.



- [3] Tell patient to leave mouth closed.
- [4] Leave thermometer in place 3-5 minutes.
- [5] Remove thermometer, and wipe it clean.

3.2 Rectal Temperature

- [1] Position:
 - Older child or adult should lie on side with upper knee bent.
 - Infant or younger child should lie on abdomen, maybe on parent's lap.
 - NOT taken with patient lying on back (may damage rectum).
- [2] Lubricate thermometer tip with lubricating jelly (K-Y®, Lubafax®).
- [3] Insert thermometer about one inch, just past the anus muscle.
- [4] Hold thermometer in place for 2-3 minutes.



- [5] Remove thermometer, and wipe it clean.

- [6] Give patient a tissue, to wipe.

3.3 Axillary Temperature

- [1] Dry off patient's armpit.
- [2] Place bulb of thermometer in center of armpit.
- [3] Place arm against chest.
 - You may have to hold the arm in place in certain patients.



- [4] Leave thermometer in place for 10 minutes.
- [5] Remove thermometer, and wipe it clean.

4. Read Temperature

4.1 Normal is shown in the next chart. Note that:

- Rectal temperature is 1° higher than oral.
- Axillary temperature is 1° lower than oral.

NORMAL TEMPERATURE		
	Average	Range
Oral	98.6°F	96.4-99.4°F
Rectal	99.6°F	97.4-100.4°F
Axillary	97.6°F	95.4-98.4°F

4.2 Abnormal: Temperature is lower or higher than normal range.

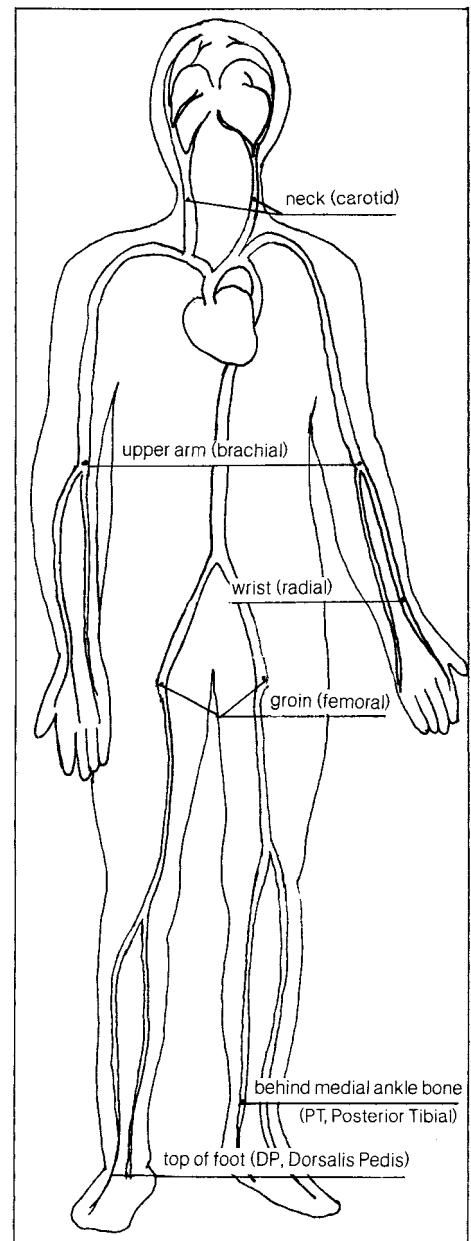
- Fever = temperature that is higher than normal range. May be:
 - ☐ low fever (low grade fever).
 - ☐ high fever (three degrees more than normal range).

PULSE (P)

Each time the heart pumps blood, it starts a wave of increased blood pressure that travels along the arteries. That wave of increased blood pressure is felt as a pulse.

As shown in the next drawing, the pulse can be felt in places where an artery:

- Is close to the skin.
- Can be pressed against a bone.



Places for feeling pulse.

Heart rate may also be counted while listening to heartbeat with stethoscope on chest. This heart rate (apical rate) is checked if:

- Patient is infant.
- Pulse is NOT regular.
- You can NOT feel a pulse.
- Patient is taking a certain medicine, such as DIGOXIN.

1. Find the Pulse

1.1 Pulse is usually taken at wrist (radial pulse).

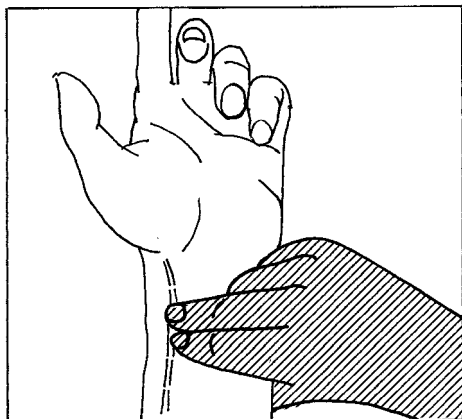
- In emergency or when radial pulse can NOT be felt, pulse is taken at neck (carotid pulse).
 - ☐ do NOT feel on both sides at once or with patient standing.
 - ☐ felt between windpipe and muscles at side of neck (p.4).

1.2 Feel in front of wrist, at base of thumb.

- It is easier to feel if hand is relaxed.

1.3 Press lightly with fingertips.

- If you press too hard, you may stop blood flow and will feel NO pulse.
- If you use thumb, you may feel your own pulse.



Feeling the radial pulse.

2. Check the Pulse

2.1 Strength.

- **Normal:** Strong.
- **Abnormal:**
 - ☐ very strong.
 - ☐ weak.
 - ☐ NOT felt.

2.2 Rate (heart rate, beats per minute):

- For most patients, count the beats for 30 seconds, and multiply this number by 2.
- If pulse is very fast and difficult to count, count the beats for 15 seconds and multiply this number by 4.
- **Normal:**

NORMAL PULSE RATE/MIN.

Age	Pulse Range	Average
Less than 1 yr.	120-160	140
1-2 yrs.	100-165	125
3-4 yrs.	65-130	100
5-7 yrs.	70-115	95
8-11 yrs	60-105	80
12 yrs. or more	60-100	75

2.3 Rhythm.

- **Normal:** Rhythm is regular.
- **Abnormal:** Rhythm is NOT regular (irregular), uneven; has extra beats or pauses.
- If rhythm is NOT regular:
 - ☐ describe it.
 - ☐ listen to chest with stethoscope, and count the heart rate (apical rate) for one minute. **Normal:** Apical rate should be same as pulse rate.

RESPIRATIONS (R)

General Approach

For a child:

- Wait until child is quiet, not fussy or restless.
- Count respirations before taking temperature.

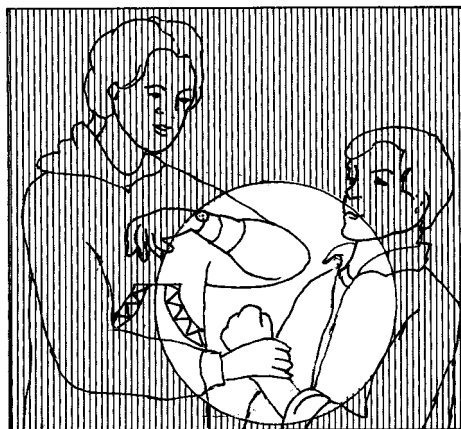
While you count patient's respirations, you should also:

- Observe patient as he breathes.
- Decide if breathing is normal or abnormal.

1. Count the Rate (Respirations per Minute)

1.1 If patient knows you are watching him breathe, he may breathe differently. Do the following, so patient will not think about his breathing:

- Hold patient's wrist as if you are taking pulse.
- If needed, place patient's wrist closer to his chest.
- Count the respirations.



Counting respirations.

1.2 Count one respiration each time patient breathes in and out:

- In most patients, you should count each time chest rises.
- In children less than age 7 and in some men, it may be easier to count each time the abdomen rises.

1.3 Count respirations for 30 seconds, and multiply this number by 2.

- If respirations are NOT regular or if breathing looks abnormal, count for one minute.

1.4 Normal:

NORMAL RESPIRATORY RATE/MIN.

Approximate Age	Respiratory Rate
Less than 1 yr.	30-60
1 yr.	30-40
2-5 yrs.	20-40
6-11 yrs.	15-30
12 yrs. or more	15-25

2. If Abnormal

If respiratory rate is abnormal, or if breathing looks abnormal, also observe and write down the following:

2.1 Rhythm.

- **Normal:** Rhythm is regular.
 - ☐ it is also normal if rhythm is irregular in child less than age 1 who seems OK otherwise.
- **Abnormal:** Rhythm is NOT regular (irregular).

2.2 Depth of respirations.

- **Abnormal** includes:
 - ☐ shallow breathing.
 - ☐ deep breathing.

2.3 Other appearance:

- General appearance.
- Nose.
- Chest.

BLOOD PRESSURE (BP)

Blood pressure is the pressure of blood within the arteries.

- Each time the heart pumps blood, it starts a wave of increased blood pressure that travels along the arteries. That wave of increased blood pressure is called the systolic blood pressure.
- When the wave of increased blood pressure passes, the pressure is called the diastolic blood pressure.

General Approach

Be sure to use the correct size BP cuff for the patient:

- For most adults, standard size cuff fits well.
- If cuff is too narrow, it gives a higher BP.
- Contact your referral hospital or other sources if you do not have:
 - ☐ oversize BP cuff, for obese (fat) patients.
 - ☐ pediatric BP cuff, for children.

1. Get Set Up

1.1 Get the patient ready:

- Have patient remove clothing on upper arm, where BP cuff will be.

- ☐ patient can push up a loose shirt.
- Patient should remove any tight clothing on arm above BP cuff.
- Position:
 - ☐ patient should sit or lie down.
 - ☐ arm should be supported, relaxed.
- 1.2 Apply BP cuff to upper arm:
 - Place center of BP cuff over front of arm, about one inch above bend of elbow.
 - Wrap BP cuff smoothly and snugly around arm.
- 1.3 Find the pulse (brachial pulse):
 - Feel in front of elbow and toward the medial (middle) side of arm, shown in next drawing.

2. Take BP

2.1 Over the pulse, place the flat side of the stethoscope (diaphragm), and hold it in place with one hand.

2.2 With your other hand:

- Hold the BP bulb.
- Keep thumb and pointer finger on the screw.
- Tighten screw until it stops.

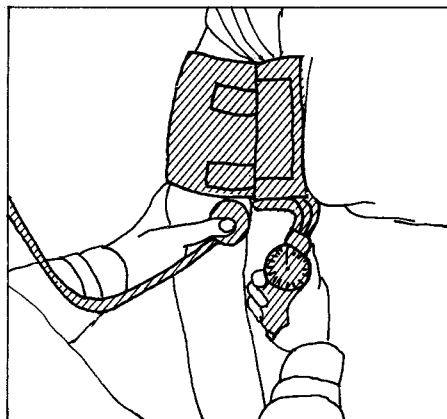
2.3 Check to be sure that you can see the scale easily.

2.4 Squeeze the bulb. Pump air into BP cuff until scale reads about 180.

- If you can hear the pulse beat, continue to pump air into BP cuff until that sound stops.

2.5 While you watch the scale, loosen screw to release air *slowly* from BP cuff.

- If patient has slow pulse, release air more slowly.



Release air slowly.

2.6 Note the number on the scale when you first hear pulse sounds.

- This number is the systolic blood pressure.

2.7 Continue to release air slowly, and note the number on the scale when you *last* hear pulse sounds.

- This number is the diastolic blood pressure.

2.8 Release all air from the B.P. cuff.

If you can NOT hear pulse sounds and you are using your stethoscope correctly, take the BP by feeling. Do the following:

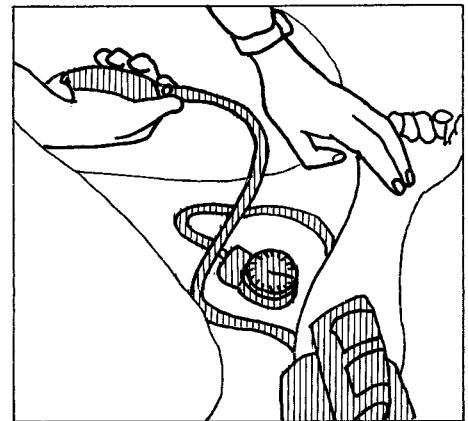
[1] With one hand, continue to hold the BP bulb.

[2] With your other hand, feel the wrist (radial) pulse.

[3] Pump air into BP cuff until scale reads about 30-50 mm. more than where pulse stopped.

[4] As you release air slowly, note the number on the scale when you first feel the pulse.

- This number is the systolic blood pressure.
 - ☐ this pressure is 5-10 mm. lower than systolic pressure taken with a stethoscope.
 - ☐ you can NOT take diastolic BP this way.



3. Record

3.1 Record the blood pressure as a fraction:

$$\frac{\text{systolic (top number)}}{\text{diastolic (bottom number)}} \text{ over}$$

3.2 **Normal:**

- Blood pressure changes in response to many things. Each

person has a range of blood pressures that is normal for him.

NORMAL BLOOD PRESSURE

Age	BP
Less than 6 yrs.	up to 110/75
6-9 yrs.	up to 120/80
10-13 yrs.	up to 125/85
14-17 yrs.	up to 135/90
18 yrs. or more	up to 140/90

3.3 Abnormal:

- High BP: if either number (systolic or diastolic) is higher than normal.
- Low BP: Usually low BP is NOT a problem for patient unless he has symptoms such as feeling faint or signs of shock (p.7).
- If BP is abnormal, wait 1-2 minutes, and then recheck it to be sure.

MEASURING HEIGHT, WEIGHT, AND HEAD CIRCUMFERENCE

GENERAL APPROACH

Height, weight, and head circumference are measurements of growth. These measurements help to tell you about a person's nutrition and general health.

One measurement can be compared with:

- Measurements done earlier.
Examples:
 - ☐ plotting child's measurements on growth chart.
 - ☐ comparing adult's weight to past visits.

- Other measurements done at the same time. Example: Comparing height with weight on growth chart.
- Standard reference values.

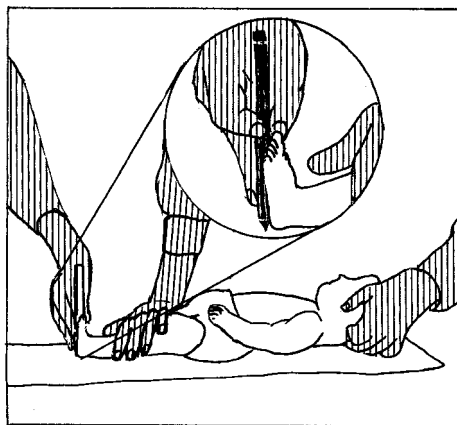
HEIGHT

For Child Less Than Age 2

The most accurate way to measure is with a measuring board for infants.

If you do not have a measuring board, you will need a flat table with papers on it. Do the following:

- [1] Have someone remove child's shoes and help to hold him.
- [2] Lay child flat on his back on table so that:
 - Face is looking straight up.
 - Head, neck, and back are in a straight line.
- [3] Hold pencil straight up, touching top of head, and mark the paper.
- [4] With feet pointing up, hold pencil straight up against bottom of heel, and mark the paper.



- [5] Measure the distance between the two marks.

- Read to the nearest line on measuring tape.
- [6] Plot length on growth chart.

For Child Age 2-10

You will need:

- Measuring tape on wall with "0" at floor.
- Ruler or other long, firm object (such as a book).

This method is more accurate for a child than standing on a platform scale.

- If young child will not cooperate, measure the same as "For Child Less Than Age 2."

Do the following:

- [1] Have child take off shoes.
- [2] Tell child to look straight ahead with his heels together.
 - Back of head, shoulders, buttocks, and heels should touch the wall.
- [3] Lay ruler flat on scalp.
 - Ruler should touch measuring tape at a 90° angle (like a square).
- [4] Read height to the nearest line on measuring tape.
- [5] Plot length (stature) on growth chart.

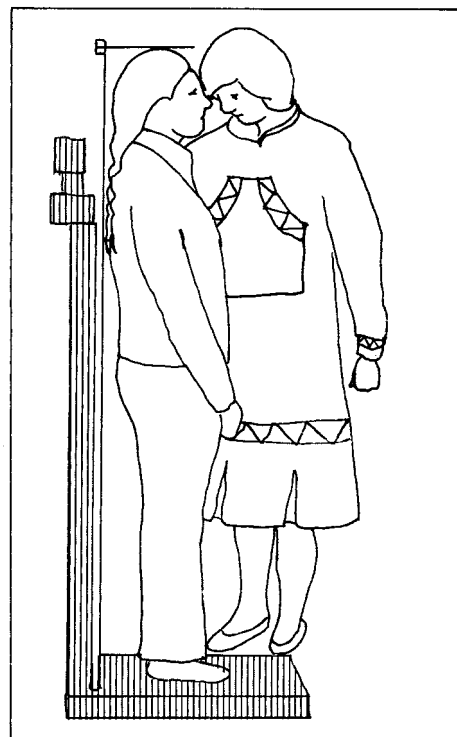
For Older Child or Adult

Use platform scale with height stick.

- If you do not have one, measure the same as "For Child Age 2-10."

Do the following:

- [1] Have patient take off shoes.
- [2] Tell patient to stand on platform with heels together, facing away from the height stick.



[3] With patient looking straight ahead, pull height stick down until outstretched measure bar rests on head.

[4] Adjust measure bar so that it rests on scalp (not hair) and is sticking straight out from height stick at a 90° angle (like a square).

[5] Read height to nearest line on upper movable stick (where stick comes out of lower holder).

[6] If less than age 18, plot height (stature) on growth chart.

WEIGHT

For Child Less Than Age 2

Use a baby scale.

Do the following:

[1] Remove all clothes, including diaper.

[2] Place a clean paper on scale.

[3] Balance scale so that pointer does not touch top or bottom.

[4] Lay child on scale and keep one hand gently over him.

[5] When child is still, remove your hand, and weigh him.

[6] Move marker on bottom bar until pointer is down, and then move marker back one notch. Pointer will now be up.

[7] Move marker on top bar until pointer balances.

[8] Read weight to nearest line.

- Add weight from bottom bar and top bar for total weight.

[9] Plot weight on growth chart.

For Patient Age 2 or More

Use platform scale.

- If young child will not cooperate, measure the same as "For Child Less Than Age 2."

Do the following:

[1] Have patient remove shoes and outdoor clothing.

- Young child should be weighed in underwear or light clothing.

[2] Balance scale so that pointer does not touch top or bottom.

[3] Have patient stand on scale.

- Nothing but patient's feet should touch the scale.

[4] Move marker on bottom bar until pointer is down, and then move marker back one notch. Pointer will now be up.

[5] Move marker on top bar until pointer balances.

[6] Read weight to nearest line.

- Add weight from bottom bar and top bar for total weight.

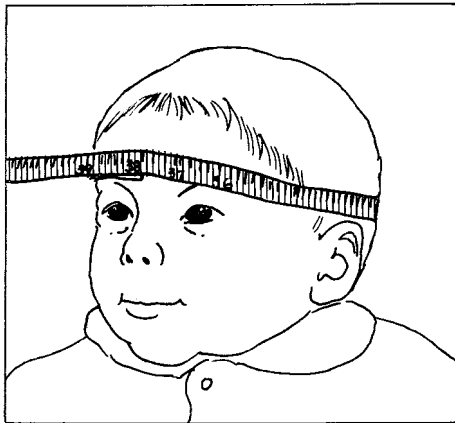
[7] If less than age 18, plot weight on growth chart.

HEAD CIRCUMFERENCE

Up to age 3 years, measure head circumference.

Do the following:

[1] Place measuring tape over largest part of back of head and around forehead just above eyebrows.



[2] Read measuring tape to nearest line.

- Be careful when removing tape, so you do not cut child's ears.

[3] Plot head circumference on growth chart.

EXAMINING THE HEAD

General Approach

Position: Patient should sit for this exam.

Usually, the head and neck are examined at the same time.

1. Appearance

1.1 Shape.

1.2 Face.

1.3 Skin and hair.

- If abnormal, examine closely (p.411).

2. Feel Scalp

2.1 Feel for lumps, tenderness.

- Gently feel the scalp, especially if patient has a complaint or if appearance is abnormal.

- Feel for lymph nodes:

- ☐ in front of and behind ears.

- ☐ under lower jaw.

2.2 If an infant, gently feel soft spot (anterior fontanelle):

- Note size.

- **Normal** soft spot:

- ☐ gradually gets smaller as infant grows.

- ☐ is closed by age two.

- **Abnormal** includes if soft spot is:

- ☐ closed earlier than age six months.

- ☐ NOT closed by age two.

- ☐ sunken (as in dehydration).

- ☐ bulging (as in meningitis).

3. Press on Sinuses to Check for Tenderness in Certain Patients

Press on sinuses if patient complains of pain in the sinus areas:

- Forehead, just above eyes.

- Cheek bone, just below eyes.

Do the following:

3.1 Put one thumb over the sinus area on both sides of face.

3.2 Tell patient: "Now I am going to press. I want you to tell me if it hurts or not. If it hurts, what happens when I keep pressing? Is it the same, better, or worse?"

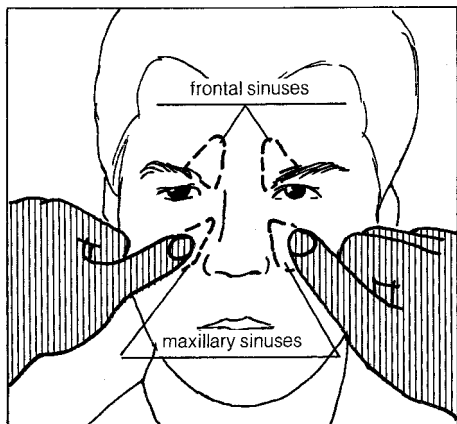
3.3 Press on the sinuses:

- At first press gently.
- If NO pain, press harder.
- Keep pressing for about 10 seconds.

3.4 Normal: Mild pressure will not hurt.

3.5 Abnormal includes:

- Some tenderness, with pressing; gets better after a few seconds.
 - ☐ usually means sinus congestion (head cold).
- Very tender with pressing; gets worse after a few seconds.
 - ☐ may mean sinus infection.



EXAMINING THE EYES

Begin here for a complete exam when it is NOT an emergency.

Summary EXAMINING THE EYES

1. Vision.
2. Look At Each Part of the Eye:
 - Eyelids and eyelashes.
 - Sclera (white part) and conjunctiva.

- Cornea ("clear window").
- Iris (colored part), pupil, and lens.

3. Eye Muscles.

4. Check Eye Pressure (Tonometry) on Certain Patients.

1. Vision

General approach: If patient wears glasses to see at a distance:

- He should wear them for vision testing.
- It may be helpful to also test vision without glasses at some time. Then, in an emergency, if patient does NOT have his glasses, you will know if his vision has changed.

1.1 Snellen Test

[1] Get set up:

- Put Snellen chart on well-lighted wall. If chart does not have enough light, shine a light on it.
- For small children or patients who do not know letters of the alphabet: Use the "E Chart" and have patient show you which way the E is pointing.
- Measure off 20 feet from the wall. Put a mark on the floor.
- If room is NOT 20 feet long, measure off 10 feet instead. You will record this change from the normal screening distance in your results.

[2] Have patient stand with his **heels** on the mark.

[3] Explain test to patient. Tell him that when he covers one eye, he should still keep it open. A helper should cover a small child's eye.

[4] Test vision in this order:

- Right eye (left eye covered).
- Left eye (right eye covered).
- Both eyes.

[5] Ask patient to read the rows of letters with both eyes open, even though he covers one eye.

- If you think he has normal vision, start at 20/40 row on chart.
- If you think he has poor vision, start at top of chart and work down.
- If he can not read the largest letter, move him forward to a mark that is 5

feet away from the chart. Test him there.

- Point to each row of letters that you want patient to read.
- Stop when patient misses more than ½ of the letters in a row.

[6] Record the results.

- Record results for R eye, L eye, and both eyes.
- The first number you record is the number of feet patient is from the chart.
 - ☐ for most patients, this number is 20.
 - ☐ if patient is only 10 or 5 feet away from the chart, the first number should be 10 or 5.
- The second number you record is the row with the smallest letters that patient could read.
 - ☐ the number you record is the number of the row *before* patient missed more than ½.
 - ☐ for example: If patient can read most of the letters in the 20/40 row, but he misses more than half of the letters in the 20/30 row, you record 20/40.
- Also record if patient wore glasses.

[7] For vision screening, report the following:

- Age 4-8: 20/40 or worse.
- 9 years or more: 20/30 or worse.
- any signs of vision problems.

1.2 When You Are Away from Clinic

You can do a rough vision screening:

[1] Use any print (magazine, book).

[2] Check each eye, while patient covers the other.

[3] If vision is very poor, see 1.3, which follows.

1.3 Checking Patient with Very Poor Vision

[1] Shine a small light at each eye from a few different angles.

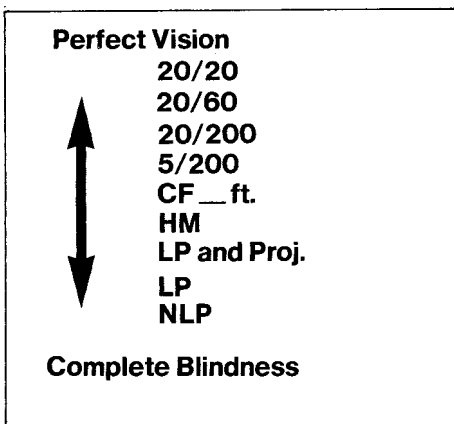
[2] Ask patient if he can see the light and can tell from which direction it is coming:

- Can he see your hand moving in front of him?

- Can he count your fingers at 3, 4, or some other number of feet?

[3] Record the results:

- Patient can NOT see light (NLP, no light perception).
- Patient can tell when the light is on (LP, light perception).
- Patient can tell when the light is on and from which direction light is coming (LP and Projection).
- Patient can see your hand moving but can NOT count fingers (HM, hand motion).
- Patient can count your fingers at 3, 4, or some other number of feet (CF — feet).



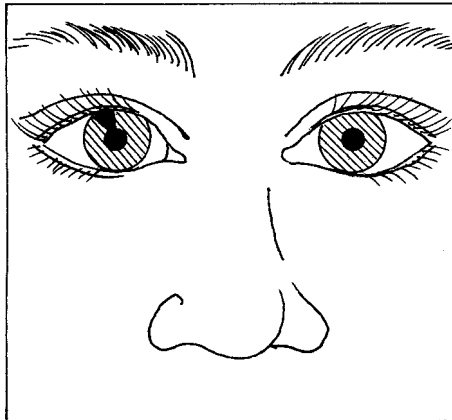
1.4 Checking an Infant

- [1]** Observe an infant.
- [2] Normal:** Infant appears to see OK. He looks at and follows a face or bright object.

2. Look at Each Part of the Eye

General approach:

- If patient wears contact lenses, have him remove them for the rest of the exam.
- Compare one eye to the other. Do they look the same?
- If something is abnormal:
 - ☐ describe it. Refer to the eye as face of a clock if this helps you.
 - ☐ it may also help to make a drawing, as in the following example.



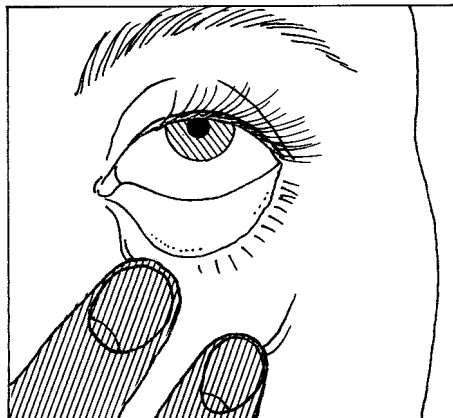
Right pupil is not round. A piece of iris (colored part) seems to be missing at 11 o'clock.

2.1 Eyelids and Eyelashes

- [1]** Look at upper and lower eyelids, including eyelashes.
- [2] Abnormal** includes:
- Drooping too much.
 - Open too far.
 - Swollen.
 - Red/inflamed.
 - Flaky skin.
 - Sticky or crusty discharge.
 - Lump.

2.2 Sclera (White Part) and Conjunctiva

- [1]** Place your finger just below the lower eyelid.
- [2]** Pull down gently so that lower eyelid is pulled away from eyeball.
- [3]** Look at the sclera (white part) and conjunctiva (thin cover for sclera and for inside of eyelid).



Pull down gently.

[4] Abnormal includes:

- Lump, such as pimple or growth.
- Color change
 - ☐ redness means inflammation.
 - ☐ section with red blood usually means bleeding under conjunctiva.
 - ☐ yellow means jaundice (liver trouble).

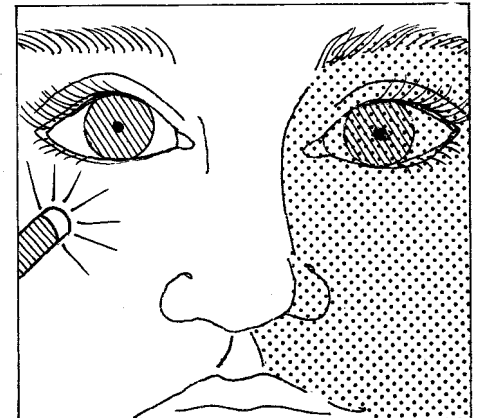
[5] If you need to fold upper eyelid back to look for a foreign body, see p.97.

2.3 Cornea ("Clear Window")

- [1]** Shine a light on the cornea from the side.
- **Normal:** Cornea is clear and shiny.
- [2]** If you suspect a scratch, use FLUORESCEIN dye, as in Chart 2.3.

2.4 Iris (Colored Part), Pupil, and Lens

- [1]** Look closely at iris (colored part) and pupil.
- **Normal:** They should be:
 - ☐ equal in size in both eyes.
 - ☐ round.
- [2]** Reaction to light:
- Shine a flashlight into the eye from close up, on the side.
 - **Normal:** Pupil should react to light (get smaller) the same in both eyes.



Reaction to light.

Chart 2.3

USING FLUORESCEIN DYE

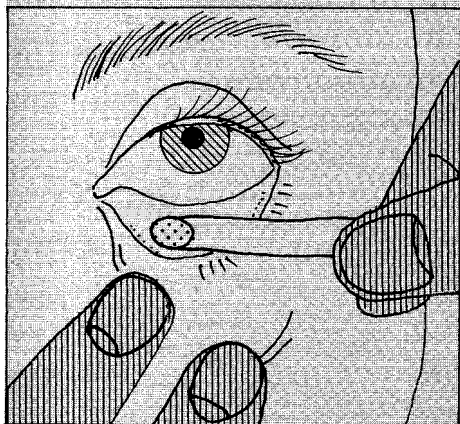
This dye is used when you suspect a scratch on the cornea.

- Do NOT use FLUORESCEIN dye if you think the eyeball itself has been cut.

Supplies needed:

FLUORESCEIN strip
Saline eye drops or other clean liquid
Tissue

1. If patient wears contact lenses, be sure he removes lens before you check and keeps lens out for a while afterwards. FLUORESCEIN can stain contacts.
2. Give patient a tissue.
3. Wet the FLUORESCEIN strip with ONE drop of liquid.
4. With your other hand, pull down gently on lower eyelid. Pull it away from eyeball.
5. Tell patient to look up, toward his eyebrow.
6. Touch FLUORESCEIN strip to inside of lower lid.



7. Have patient blink to spread the stain.
8. Shine a flashlight from the side of the eye and look closely.
9. **Abnormal** includes anything that stains with the dye.
 - ☐ a scratch or ulcer will stain.
 - ☐ a scar will not stain.

[3] Abnormal includes:

- Pupils unequal in size.
 - ☐ may be normal for this patient.
 - ☐ may mean brain damage.
- Pupil not round. Usually means problem with iris (now or in past).
- Dilated pupils that do not react to light. May mean:
 - ☐ use of certain eye drops like atropine.
 - ☐ serious sign after cardiac arrest, stroke, head injury.
- Small pupils. May mean
 - ☐ use of certain eye drops like Pilocarpine, for glaucoma.
 - ☐ use of narcotics or certain other drugs.
 - ☐ damage to nervous system.
- Lens is seen behind pupil. When the lens appears cloudy, this is a cataract.

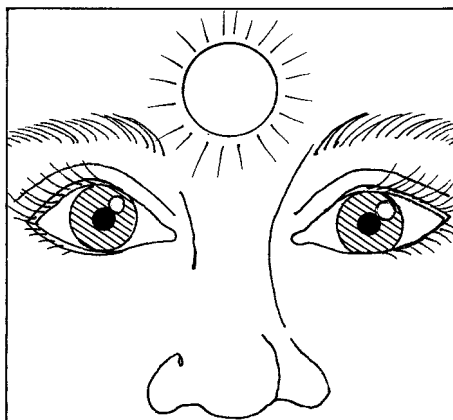
3. Eye Muscles

3.1 Ask patient to look at your finger as you slowly move it in a large circle.

- **Normal:** Both eyes move OK in all directions.
- **Abnormal** includes:
 - ☐ crossed eyes; "wandering" eye.
 - ☐ eyes that "jerk" to one side (nystagmus).

3.2 Shine a flashlight from a few feet away onto patient's forehead. Tell patient to look at the light.

- **Normal:** Light reflects off the cornea in same place on both eyes (normal corneal light reflex).



4. Check Eye Pressure (Tonometry) on Certain Patients

General approach:

- Check eye pressure (pressure inside eye) on certain patients:
 - ☐ as a screening test for adults over 40 years.
 - ☐ if you think an adult may have acute glaucoma (p.104).
 - ☐ for long-term care of patient with chronic glaucoma (p.107).
- Do NOT do this test:
 - ☐ until you have been taught. —or—
 - ☐ if patient has:
 - allergy to the eye drops.
 - serious eye injury.
 - foreign body seen.
 - severe eye infection.
 - history of recent eye surgery.

TONOMETRY

Equipment/supplies needed:

Tonometer
ALCOHOL wipes
Sterile gauze pads
Sterile water or saline
Pipe cleaners
PROPARACAINE (Ophthetic®) or other local eye anesthetic
Tissue

4.1 Clean the Tonometer

[1] Plan to use:

- ALCOHOL wipe to clean.
- Sterile fluid to rinse.
- Sterile gauze to dry.

[2] After cleaning, plan to:

- Rest the parts on sterile gauze.
- **Do NOT touch parts that touch eye.**

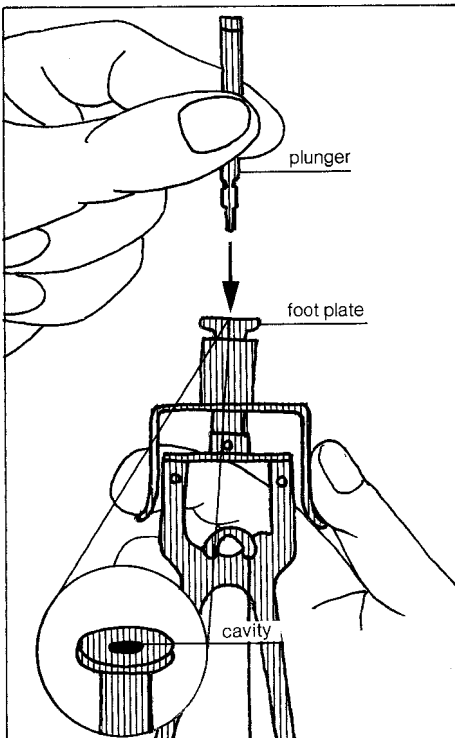
[3] Clean, rinse, and dry the following parts:

- Plunger (center post).
- Cavity inside tonometer.
 - ☐ if available, use a pipe cleaner for cleaning and rinsing this part.
- Round foot plate (end piece).

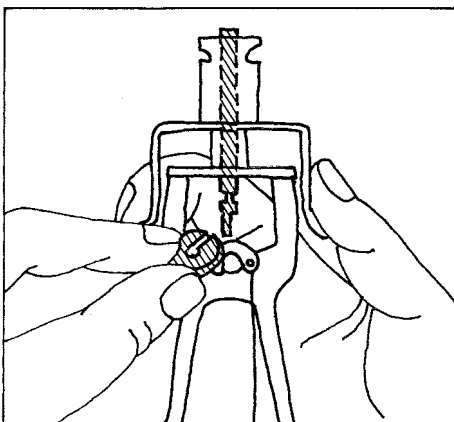
[4] Wipe the metal test block with ALCOHOL wipe, and dry it right away with sterile gauze.

4.2 Put the Tonometer Together

- [1] Hold tonometer upside down.
- [2] Slide plunger (center post) in.

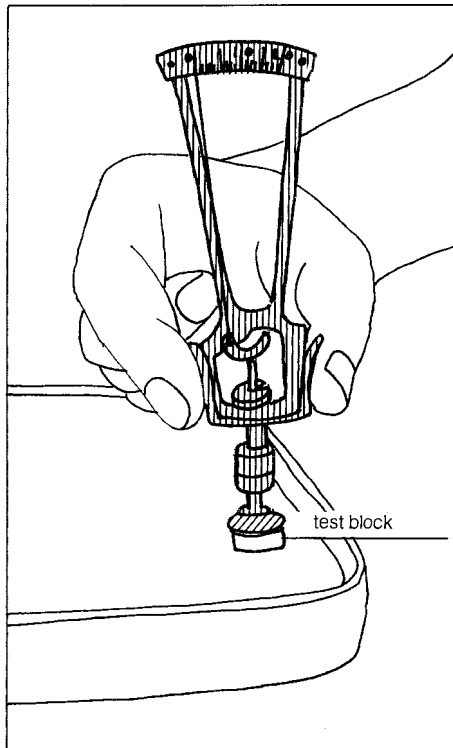


- [3] Snap on the 5.5 Gm. weight.



4.3 Test the Tonometer

- [1] Test tonometer on the test block. Scale should read 0.



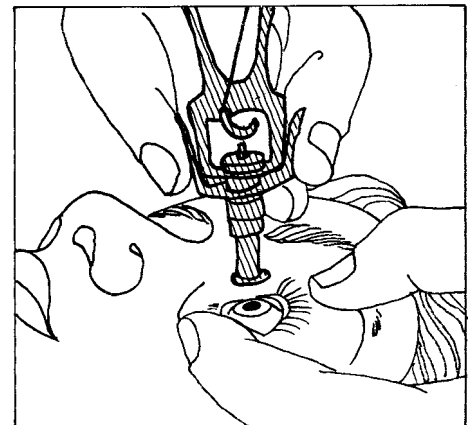
- [2] If scale does NOT read 0, do as much of the following as needed:
 - Check to see that tonometer rests correctly on test block and is NOT tilted to one side.
 - Be sure your fingers are NOT supporting the tonometer.
 - Check to see if the weight is on correctly.
 - Recheck several times.

4.4 Get Patient Ready

- [1] Explain what you are going to do.
- [2] Have patient lie flat.
- [3] Give him a tissue if he needs to blot (not rub) his eyes.
- [4] Put 1-2 drops of eye anesthetic (PROPARACAINE) in each eye.
 - Tell patient the drops may burn for a second.
 - Warn patient not to rub eyes for ½ hour or so.
- [5] Tell patient to hold up his arm and look at his thumb:
 - On the side away from eye you're testing.
 - He should keep elbow straight
 - Move patient's thumb to get his eye where you want it.

4.5 Do the Test

- [1] Check right eye first.
 - If patient has a problem with right eye, check left eye first.
- [2] Hold tonometer with scale pointed toward you.
- [3] Do not cover other eye. It needs to see thumb.
- [4] Gently pull back the eyelids:
 - Put your fingers right next to the eyelashes and retract.
 - Take your time to get this right. **The eyelids must be out of the way, or patient will blink.**
 - Rest your fingers on the *bones* around the eye.
 - Tell patient to keep his eyes open.
- [5] Slowly and gently rest the foot plate on center of cornea.
 - Do NOT slide foot plate on the eye.



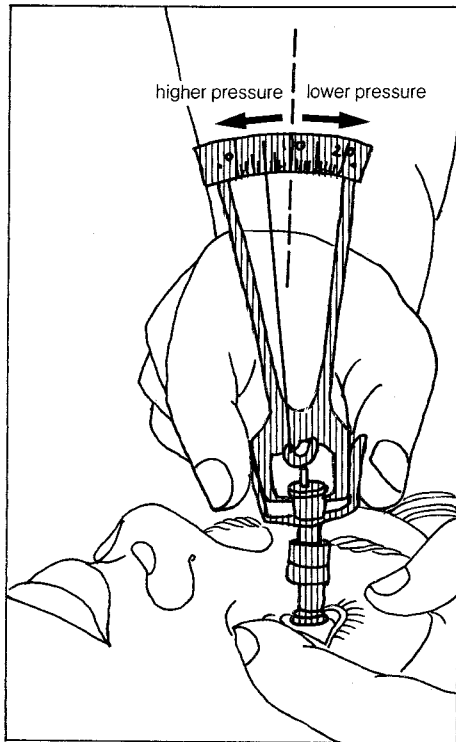
- [6] Check scale reading.
 - Next, gently lift tonometer straight off eye.
- [7] Repeat on other eye.

4.6 Record/Report Results

- [1] Record that you did this test with the 5.5 Gm. weight. For Example:

	R eye	L eye
Tonometry	4 units	5 units
	with 5.5 Gm. weight	

- [2] Report to your referral doctor as follows:
 - Report any pressure that is 3 units or less. 3 units or less means high pressure.



The lower the number, the higher the pressure.

- Report if there is a large difference in pressure between the two eyes.

EXAMINING THE EARS

Summary EXAMINING THE EARS

1. Outer Ear.
2. Ear Canal.
3. Eardrum:
 - Color.
 - Position.
 - Is it clear or cloudy?
 - Other appearance.
 - Is it movable?
4. Hearing.

General Approach

Otoscope should:

- Be made so you can check movement of eardrum (hook tubing

up to "closed head" for pneumatic otoscope).

- Have bright, white light.
 - if light is yellow or dim, change the batteries before you examine.

If possible, examine every child's ears. Often ear disease is present without symptoms or complaints.

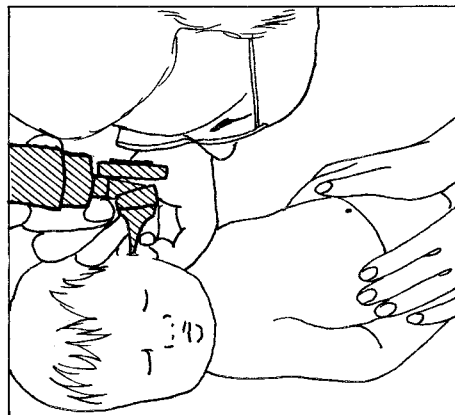
Child may NOT be quiet after ear exam. Check lungs, heart, and abdomen before checking ears.

Reassure a child. Do the following:

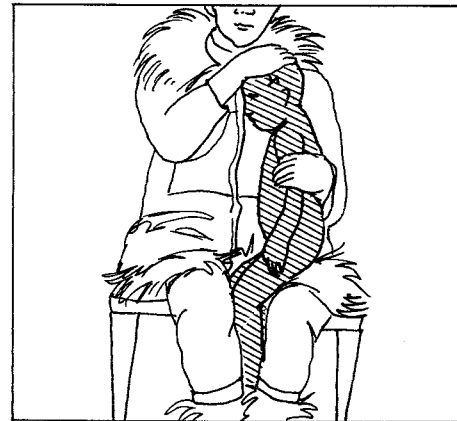
- Talk with child before you begin:
 - explain what you will be doing and why.
 - tell him that you will explain the exam as you do it.
 - tell him that you want him to sit very still while you look in his ear.
- Show him the otoscope. Shine the light on your hand or on the child's hand, so he can see that the otoscope will not hurt him.

Position: If possible, patient should sit. If child is NOT cooperative or is too young to understand, teach parent how to hold child so you can do a safe exam when examining the ear canal and eardrum:

- If infant:
 - place him on his back.
 - encourage him to turn head to one side: Have parent show him an interesting object.
 - hold him as shown in next drawing.



- If young child:
 - have a parent sit and hold the child as in the next drawing.



- If very uncooperative, lay child down and hold him as an infant, above.

If patient has an ear complaint, examine the "good" ear first.

Wash speculum after each use and then soak it in ALCOHOL.

1. Outer Ear

1.1 Appearance, including behind the ear.

- **Abnormal** includes drainage from ear canal.

1.2 Feel for lymph nodes. If felt, note location, size, tenderness, and if movable.

1.3 Press on the hard bone behind ear (mastoid bone) to check for tenderness.

- **Abnormal:** Mastoid bone is tender to touch. This may mean a serious infection (mastoiditis).

2. Ear Canal

2.1 Choose the largest size speculum (ear speculum, earpiece) that will fit comfortably into the ear canal.

2.2 Hold the otoscope and ear correctly, and look at the ear canal.

- It may help to stand behind patient's shoulder.
- Pull on the outer ear to straighten the ear canal and make it easier to see:

- ☐ if infant or young child, pull ear down and toward back of the head.
- ☐ if older child or adult, pull up and toward back of head.
- Hold the otoscope like a pencil, between the thumb and pointer finger.
- Rest your little finger or the side of your hand against patient's head, as in drawings in this section.
 - ☐ do this so that if patient moves, the speculum will move with him and will NOT hurt.
- Insert the speculum.
- Look at ear canal.

2.3 Normal: Ear canal is pink, with a small amount of wax.

2.4 Abnormal includes: redness, sores, bleeding, drainage, lots of wax, foreign body.

- If drainage or pus, examine:
 - ☐ how much is there?
 - ☐ what does it look like (color, clear or cloudy, thick or thin)?
 - ☐ what does it smell like?

3. Eardrum

General Approach

Move the speculum in different positions to get a good look at all of the eardrum (TM, Tympanic Membrane), including the area above the bone (above the malleus).

If you can NOT see eardrum because of too much wax, go to p.94, "Object in Ear Canal."

3.1 Color

- **Normal:**
 - ☐ gray color.
 - ☐ tiny red blood vessels that look like threads, seen along the bone (malleus).
 - ☐ in a crying child, color will be pink/red, from enlarged blood vessels around the edges of the eardrum. If so, later, when the child is NOT crying, try to quickly examine the eardrum again for color.

- **Abnormal:** Any color other than gray, such as red, yellow, blue, or white.

3.2 Position

Look for the bone of the middle ear to help you decide what the eardrum's position is.

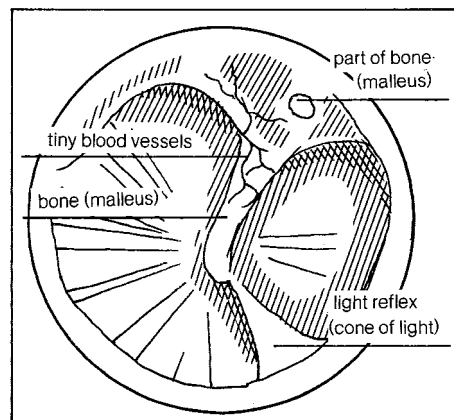
- **Normal:** Bone (malleus) lies flat against the eardrum.
- **Abnormal** includes the following:
 - ☐ retracted eardrum: Eardrum is pulled back tightly over the bone.
 - ☐ bulging eardrum: Here you can NOT see the bone at all.

3.3 Is it Clear or Cloudy?

- **Normal:** Eardrum is almost clear (translucent), and slightly shiny.
- **Abnormal:** Eardrum is dull, cloudy, or you may NOT be able to see through it (opaque).

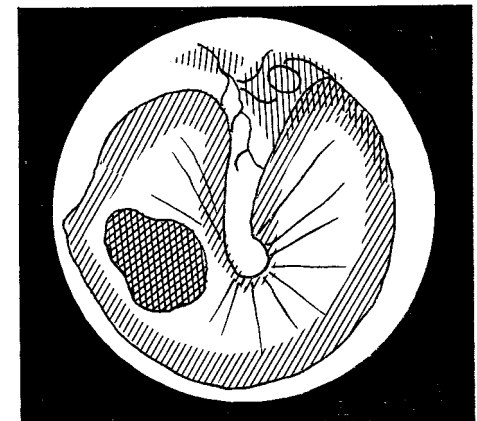
3.4 Other appearance

- Light reflex (cone of light) may be seen:
 - ☐ a tiny triangle of shiny white light from the end of the bone to the edge of the eardrum at about 5 o'clock on right ear or 7 o'clock on left ear.
 - ☐ may be seen in normal or abnormal eardrum.



Normal right eardrum.

- **Abnormal** includes the following:
 - ☐ scar (white color). In many patients, this does NOT cause a problem and becomes "normal" for that patient.
 - ☐ hole in the eardrum (perforation).
 - ☐ bubbles or fluid level may be seen behind the eardrum.
 - ☐ glistening, pearly-white growth, seen through a hole, usually at upper edge of eardrum (cholesteatoma).
 - ☐ changes following ear surgery.
- Describe anything that is abnormal.
 - ☐ refer to the eardrum as face of a clock, if this helps you.
 - ☐ it may also help to make a drawing, as in the following example.



There is a large hole in center of right eardrum at about 7 o'clock. Hole takes up about 1/4 of eardrum.

3.5 Is it movable?

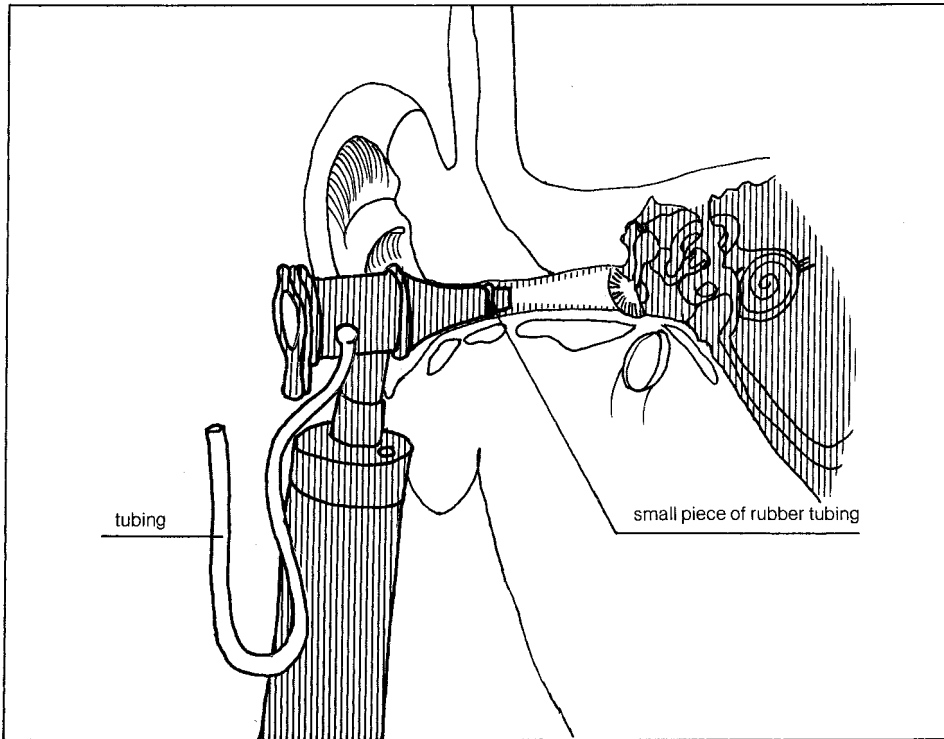
Do this exam (pneumatic otoscopy) if patient has

- History of ear problems.
- Abnormal looking eardrum.

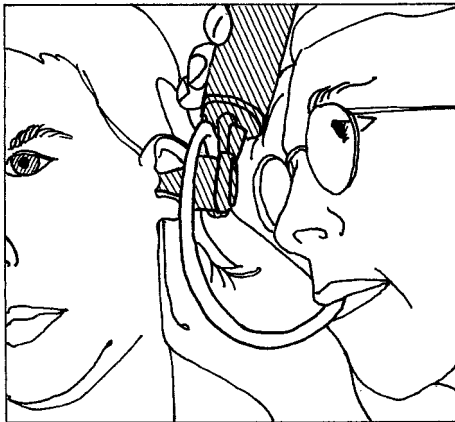
Do NOT do this exam if the ear is draining pus.

- Attach end of tubing to otoscope.
- Check to see that speculum fits snugly inside ear canal, so that there is NOT room for air to escape.
 - ☐ you may need to put a small piece of rubber tubing over the outside of the tip of your speculum, to get a good seal.

EXAMINING THE NOSE



- Place other end of tubing in your mouth (or hold bulb, if you have one).
- Watch the eardrum as you blow and suck gentle puffs of air through the tubing.



- **Normal:** Eardrum moves easily.
- **Abnormal** includes when eardrum does NOT move normally or does not move at all (is immobile).
 - ☐ this usually means there is fluid or pus behind eardrum.
 - ☐ eardrum will not move if there is a hole in it.

4. Hearing

4.1 If infant or young child, check hearing by making a soft sound behind the child's head.

- Normal:
 - ☐ a very young infant will change activity.
 - ☐ an older infant or young child will turn to the sound.

4.2 If older child or adult, check the hearing on each ear. Do one of the following:

- Check with a watch ticking:
 - ☐ hold a ticking watch near ear.
 - ☐ slowly move the watch away.
 - ☐ see how far away from the ear patient can hear the watch.
 - ☐ decide if hearing is normal or abnormal.
- Check by whispering:
 - ☐ stand behind patient, so he will not read your lips.
 - ☐ have patient put one hand over the ear you are NOT testing.
 - ☐ whisper to the patient, about 2 feet from the ear. Ask a question.
 - ☐ can the patient hear and understand you, or do you need to speak louder?
 - ☐ decide if hearing is normal.

1. Appearance

1.1 Abnormal includes:

- Flaring of nostrils with breathing in.
- Stuffy, runny nose.
- Sores on skin.

2. Look Inside in Certain Patients

You may decide to look inside nose, especially if patient has a history of nose problems, such as:

- Injury.
- Nosebleed.
- Child with a foul-smelling runny nose (may be foreign body).

2.1 Use the largest speculum on your otoscope.

2.2 Tell patient, "Hold your breath, while I look in each nostril."

- If a child, have parent help to hold, if needed, in same way as if you were examining throat (p.383).

2.3 Insert speculum gently, trying not to touch the middle part of nose (septum).

2.4 Abnormal includes:

- Blood seen.
- Swelling of septum.
- Hole in septum.
- Polyp seen (extra piece of tissue).

3. Other Exam, If Needed

Examine further, if needed, including the following:

3.1 Feel the nose if history of:

- Pain.
- Swelling.
- Old injury.

3.2 If exam shows swelling/lump on one side of nose, check to see if patient can breathe through both nostrils:

- Press one nostril closed at a time and have patient breathe in and out.

EXAMINING THE MOUTH AND THROAT

Summary EXAMINING THE MOUTH AND THROAT

1. Lips.
2. Teeth.
3. Gums.
4. Other Mucous Membranes.
5. Tongue.
6. Uvula and Throat.
7. Feel Certain Areas.
8. Check Bite.

General Approach

If patient has false teeth, tell him to:

- Take them out. Give him a paper towel or tissue.
- Rinse out his mouth well.

Wash hands before and after examining.

As you examine, do the following:

- Tell patient to:
 - ☐ open his mouth wide.
 - ☐ tilt his head back.
- Use a tongue blade in one hand and a light in the other.
- Be complete. Check all parts of the mouth.
- Note if patient's breath has unusual smell.

1. Lips

1.1 Look at patient's lips.

- To see corners of his mouth well, have him open his mouth wide.
- **Abnormal** includes problems with color, moisture, lumps, ulcers, or cracking.

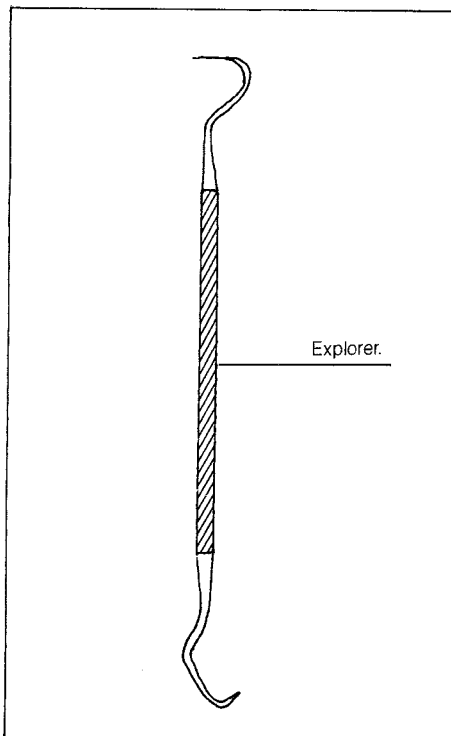
2. Teeth

2.1 Look at patient's teeth.

- Use dental mirror to look at places that are hard to see.
- Note tooth decay, missing teeth, other problems.

2.2 If you see a brown area and you are not sure if it is tooth decay:

- Probe it gently with your dental explorer.



- If it is decay, the area will be soft.

2.3 If you find some problem with a tooth:

- Tap the tooth gently. Use handle of your dental mirror.
 - ☐ **normal:** Tapping the tooth does NOT hurt.
- Try to move the tooth with your fingers. Can you move it, or is it firmly attached?
- Identify the tooth by its number or its name and location in mouth (p.355).

3. Gums

3.1 Look at patient's gums, especially where gums touch teeth.

3.2 Abnormal includes gums that:

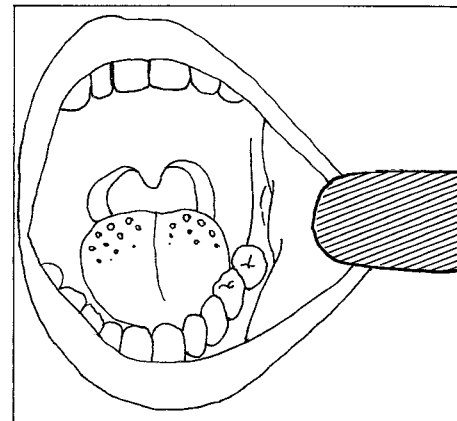
- Bleed easily.
- Are pulled away (retracted) from teeth.
- Are swollen or thickened.

4. Other Mucous Membranes

It is important to look at all of the wet mucous membranes (mucosa).

4.1 First, look between cheek and teeth, so you remember to check this area.

- Tell patient to open his mouth just a little bit.
- Use a tongue blade to lift out and look at inside of lips and cheeks.



Look at all of the mucous membranes.

4.2 Look at the rest of the mucous membranes, including the whole roof of mouth (palate).

4.3 Normal: Mucous membranes have a healthy pink color.

4.4 Abnormal includes:

- Pale or blue color.
- Sores, ulcers, white patches, lumps, bleeding.

5. Tongue

5.1 Tell patient to stick his tongue out straight. Observe the tongue.

- **Normal:** Tongue sticks out straight. It has a healthy pink color.
- **Abnormal** includes if tongue leans to one side.

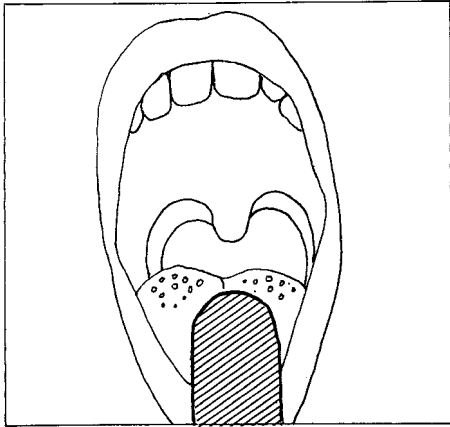
5.2 Look beside and under the tongue. This is a common place for tumors:

- Push tongue to one side to look at mucous membranes. If needed, use 2x2 gauze to hold tongue.
- Tell patient to open his mouth and touch his tongue to the roof of his mouth. Look at bottom of tongue and floor of mouth.
- **Abnormal** includes a white or reddened area, ulcer, lump.

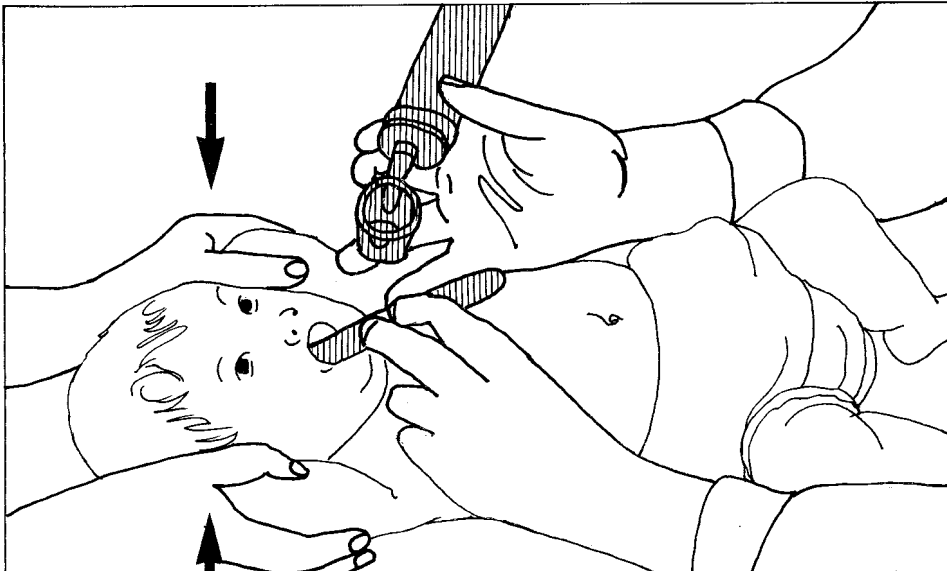
6. Uvula and Throat

If needed, to see more as you examine, tell patient to keep his tongue relaxed, inside his mouth.

6.1 Place tongue blade on front half of tongue only, to prevent gagging.



- An infant or young child may need to be held as in the next drawing.



6.2 Ask patient to say "Ah." Observe uvula, and back of throat.

- **Normal** uvula:
 - ☐ hangs in the midline (middle line) of the body.
 - ☐ moves straight up when saying "Ah."
- **Abnormal** includes if uvula:
 - ☐ hangs to one side. May be pushed over by tonsil abscess, tumor.
 - ☐ moves to one side (moves more on one side than on the other). May mean trouble with nerves in that area.
- **Abnormal** throat includes:
 - ☐ increased redness.
 - ☐ tiny, clear, pink bumps of tissue seen in many viral infections.
 - ☐ mucus running down back of throat from an upper respiratory infection.

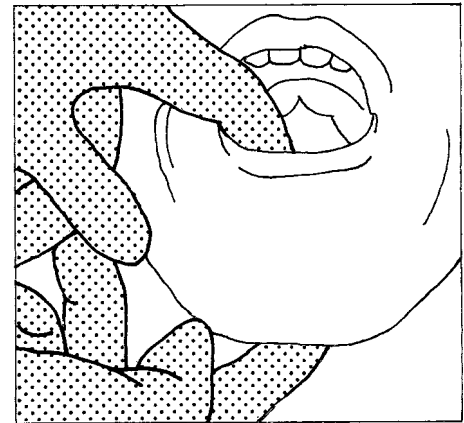
6.3 Look at the tonsils, even in a normal patient, so you know what patient's normal tonsils look like.

- **Abnormal** tonsils may include:
 - ☐ swelling; larger than patient's normal size.
 - ☐ redness.
 - ☐ white patches (pus) on tonsils.

7. Feel Certain Areas

7.1 Feel any problem areas, if possible. For example, if you have found a sore or if you suspect a lump, feel (palpate) the area:

- Put on examination gloves.
- Feel gently but firmly.
- If possible, put your other hand on *outside* of mouth (skin side). Feel between your two fingers.



Feel with both hands.

- It is normal to feel a salivary gland just under the lower jaw, about halfway between chin and angle of jaw.
- **Abnormal** includes:
 - ☐ signs of inflammation (tender, warm, red, swollen).
 - ☐ lump. *If lump felt*, decide the following:
 - is it tender to touch?
 - what does it feel like (soft, firm, hard)?
 - is it movable or attached to something?

7.2 Feel for lymph nodes under lower jaw. If felt, note location, size, and tenderness.

8. Check Bite

8.1 Tell patient to bite down lightly and show you his teeth.

8.2 Look at how the teeth come together.

EXAMINING THE NECK

Summary EXAMINING THE NECK

1. Appearance.
2. Feel the Neck.
 - Lymph nodes, other lumps.
 - Pulses.
 - Thyroid.
 - Windpipe.
3. Listen With Stethoscope Over Artery in Certain Patients.
4. Movement.

General Approach

Position: Patient should sit for this exam.

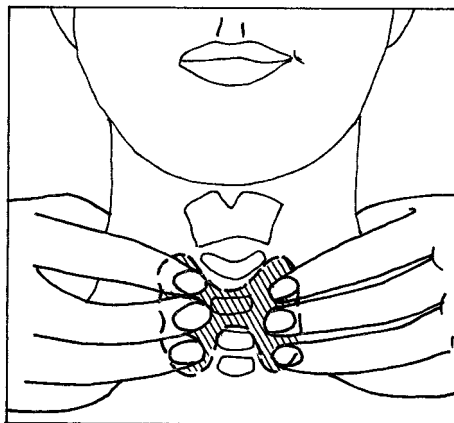
1. Appearance

- 1.1 Position.
- 1.2 Shape.
 - **Abnormal** includes swelling, lumps.
- 1.3 Skin.
 - If abnormal, examine closely (p.411).
- 1.4 *If possible heart problems, check neck veins:*
 - Look at neck veins with patient sitting up straight.
 - **Normal:** Neck veins will look empty, with patient sitting.
 - **Abnormal:** Veins look full, and may throb. This may be a sign of heart failure.

2. Feel the Neck

- 2.1 Lymph nodes, other lumps:
 - Feel in all areas.
 - ☐ on the head:
 - in front of and behind ears.
 - under lower jaw.
 - ☐ on the neck:
 - at angle of jaw and down muscle in front of neck.
 - back of neck.

- ☐ above each collarbone.
- If felt, note location, size, tenderness, and if movable.
- **Normal:** There may be a few lymph nodes felt that are:
 - ☐ small (less than 1 cm.).
 - ☐ NOT tender to touch.
 - ☐ movable.
- **Abnormal:**
 - ☐ enlarged, tender lymph nodes.
 - ☐ other lumps.
- 2.2 Pulses, carotid:
 - Feel one at a time.
 - Compare one side of body to the other.
- 2.3 Thyroid:
 - First, look at front of neck, below voicebox (Adam's apple).
 - ☐ **abnormal:** bulging or fullness.
 - Next, stand behind patient, and feel for thyroid:
 - ☐ place your fingers on both sides of windpipe as in next drawing.
 - ☐ ask patient to swallow. It may help to give patient a glass of water to sip.



Feel for thyroid.

- If you feel the thyroid, feel carefully for lumps.
- **Normal:** Thyroid may be felt, especially if patient is thin. If felt, it is soft and small, with NO lumps.
- **Abnormal:**
 - ☐ larger than normal.
 - ☐ lump felt in part of thyroid.
- 2.4 Windpipe: (trachea). You may decide to feel for the windpipe, especially if patient has shortness of breath.
 - Feel in lower part of neck.

- **Normal:** Windpipe is in center of neck.
- **Abnormal:** Windpipe is pushed to one side.

3. Listen with Stethoscope Over Artery in Certain Patients

You may decide to listen over the artery, especially:

- If pulses do NOT feel the same on both sides.
- If you are checking for artery problems.

Do the following on both sides:

- 3.1 Place your stethoscope over the carotid pulse.
- 3.2 Ask patient to briefly stop breathing while you listen.
- 3.3 **Abnormal:** Swishing sound of blood flowing through artery (bruit; may mean artery is partly blocked).

4. Movement

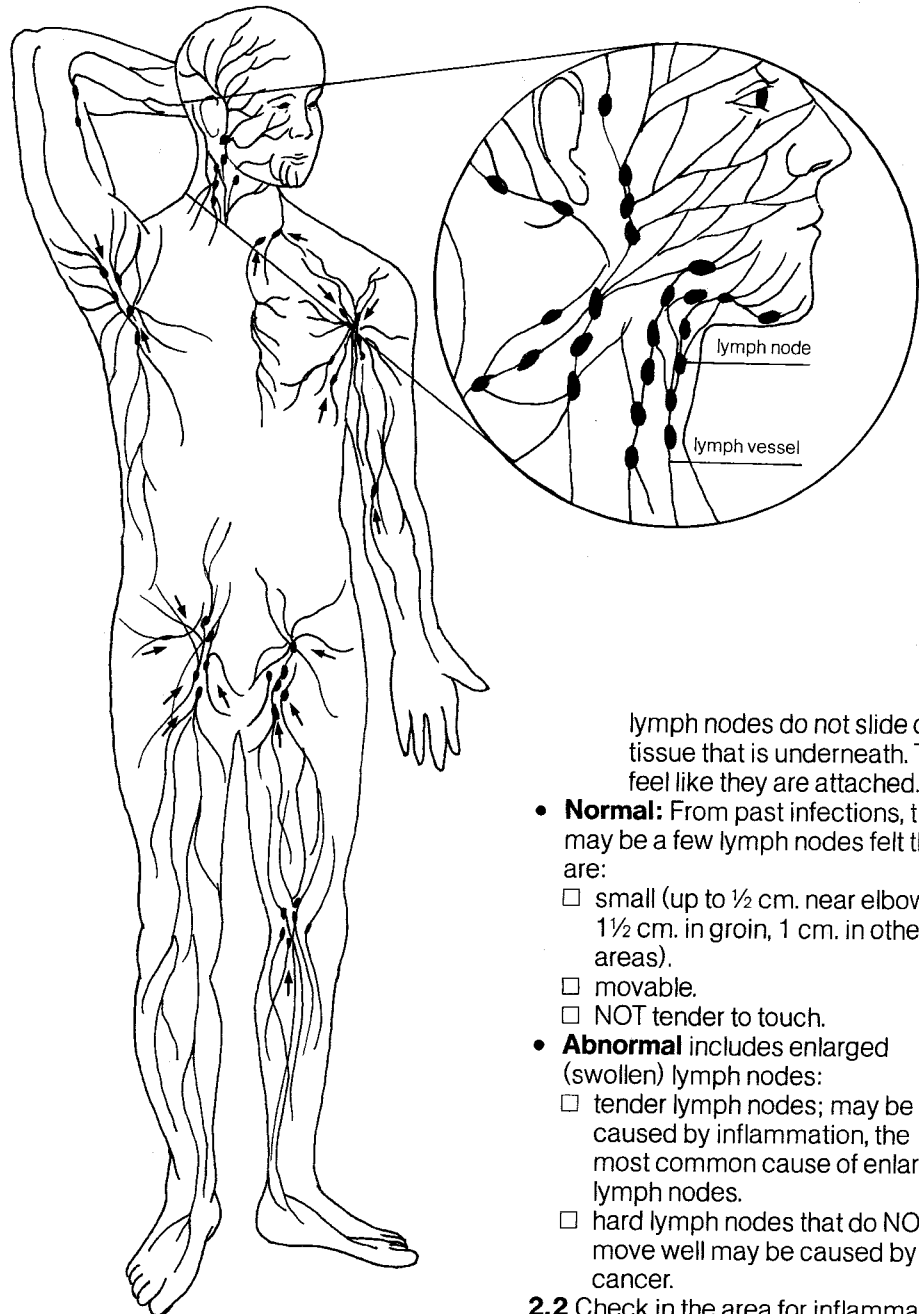
- 4.1 Ask patient to move head in different directions:
 - Touch chin to chest.
 - Touch chin to each shoulder.
 - Move head from side to side, ear toward shoulder.
 - Move head upward and back.
- 4.2 **Normal:** Neck moves smoothly, without pain or grinding, through its normal range (normal range of motion).
- 4.3 **Abnormal** includes pain, grating, or decreased range of motion.

EXAMINING LYMPH NODES

Summary EXAMINING LYMPH NODES

1. Feel for Lymph Nodes.
2. If You Feel Lymph Nodes.

- Carefully examine:
 - ☐ location.
 - ☐ number.
 - ☐ size and shape.
 - ☐ are they tender to touch?
 - ☐ what do they feel like (soft, firm, hard)?
 - ☐ are they separate or joined together?
 - ☐ are they movable or attached?
- Check area for inflammation.
- Feel for lymph nodes in other areas.



1. Feel for Lymph Nodes

1.1 You may feel for lymph nodes in a number of places, as shown in next drawing:

- If there is a problem in one part of the body, you may be told to feel for lymph nodes that filter fluid from that area.
- In a screening physical exam, feel for lymph nodes in the following places:
 - ☐ neck.
 - ☐ armpit, as part of breast exam.
 - ☐ groin, as part of abdominal exam.

1.2 Feel with your fingertips:

- Place the flat part of your fingertips on the skin.
- Use the middle three fingers to move *the skin* over the tissue underneath. Use a back and forth or a circular motion.

1.3 Normal: Lymph nodes are NOT felt, except as noted below.

lymph nodes do not slide over tissue that is underneath. They feel like they are attached.

- **Normal:** From past infections, there may be a few lymph nodes felt that are:
 - ☐ small (up to ½ cm. near elbow, 1½ cm. in groin, 1 cm. in other areas).
 - ☐ movable.
 - ☐ NOT tender to touch.
- **Abnormal** includes enlarged (swollen) lymph nodes:
 - ☐ tender lymph nodes; may be caused by inflammation, the most common cause of enlarged lymph nodes.
 - ☐ hard lymph nodes that do NOT move well may be caused by cancer.

2. If You Feel Lymph Nodes

2.1 Carefully examine:

- Location: Where exactly are the lymph nodes?
- Number of lymph nodes felt.
- Size and shape.
- Are they tender to touch?
- What do they feel like (soft, firm, hard)?
- Are they separate from each other or joined together?
- Are they movable or attached to something:

Places where you may feel lymph nodes.

- ☐ try to move/slide lymph nodes over tissue that is underneath.
 - movable = lymph nodes slide over tissue that is underneath.
 - attached to something =

2.2 Check in the area for inflammation:

- Look in the area that is filtered by the nodes.
- Is it inflamed (tender to touch, warm, red, swollen)? If so, enlarged lymph nodes are probably caused by infection in this area.

2.3 Feel for lymph nodes in other areas:

- Check the neck, armpit, and groin.
- If enlarged lymph nodes are felt in more than one area of the body, they are probably caused by a disease that affects the whole body.

EXAMINING THE CHEST & LUNGS

Summary EXAMINING THE CHEST & LUNGS

1. Appearance.
2. Feel, If Problems.
3. Breath Sounds.
4. If Abnormal, Percuss.

General Approach

Undress: Have patient uncover chest.

- Give woman a drape to use when you are not examining.
- If not possible to undress:
 - ☐ look at as much of the chest as possible.
 - ☐ never listen through clothes.

Position: Patient should sit up for this exam. If patient can not sit:

- Have someone hold patient up.
- Or, if patient is lying down, you can listen to chest by rolling him to the side.

As you examine, compare one side of body to the other.

1. Appearance

All of the following is usually observed at the same time:

1.1 Skin.

- If surgery scar, it may help to make a drawing of location and size.

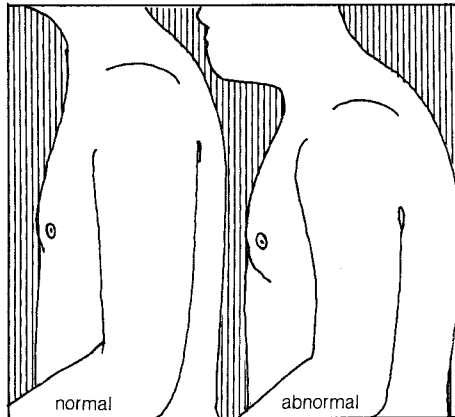
1.2 Shape, and other appearance:

- Look at chest from several directions: front, side, and back.

• Normal:

- ☐ chest looks about the same on both sides of body.
- ☐ chest is larger from side to side than from front to back.

- **Abnormal** includes: chest larger than normal from front to back ("barrel" chest, often seen with chronic lung disease).



Shape of chest.

1.3 Breathing:

• Normal:

- ☐ normal, regular respiratory rate.
- ☐ breathing is quiet.
- ☐ chest moves and looks the same on both sides of body.

• Abnormal includes:

- ☐ very deep or very shallow breathing.
- ☐ fast or irregular breathing.
- ☐ making sound with breathing:
 - high-pitched sound when breathing in (stridor). If so, and if child less than 8 yrs., do NOT examine throat with tongue blade! That may make child stop breathing!
 - grunting when breathing out, especially in infant.
- ☐ retractions: skin between ribs pulls in when patient breathes in; ribs are seen easily.

2. Feel, If Problems

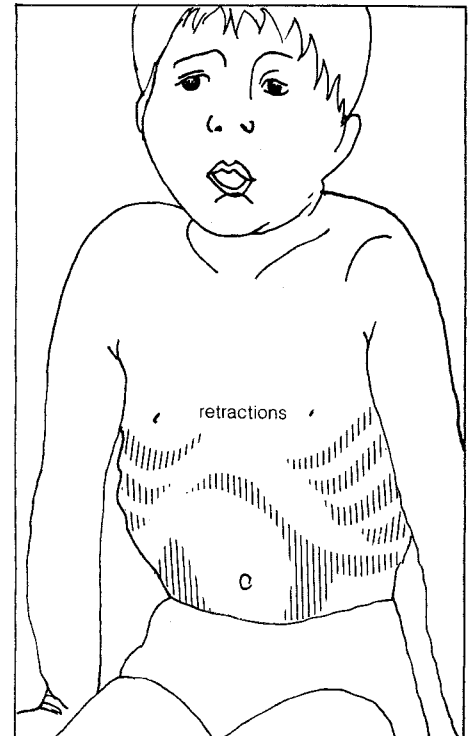
Feel the chest if:

- History of chest problems.
- Abnormal appearance.

2.1 If history of pain or injury, feel chest for tenderness:

- Start away from the painful area. Slowly work toward it.
- Check for tenderness in front of chest, where ribs meet breastbone.
- Feel all bony areas of chest.

2.2 If abnormal appearance, feel for lumps.



Retractions are NOT normal.

2.3 Feel for lymph nodes, just above each collarbone.

2.4 Feel windpipe (trachea). Is it in the center of neck/chest (normal), or pushed to one side?

3. Breath Sounds

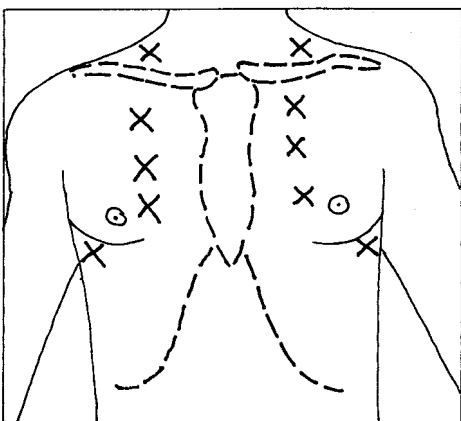
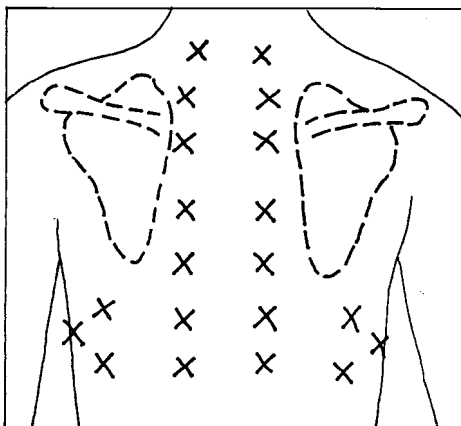
Listen with stethoscope to patient's breath sounds.

3.1 Tell patient:

- "Take some deep breaths, in and out, through your mouth."
- ☐ show patient what you mean.
- "Do NOT breathe too fast. Rest if you start to get dizzy."

3.2 Start at top of chest, and work your way down.

- Compare sound from each area examined with same area on the other side of body.
- Listen to all areas of chest as in the next drawings:
 - ☐ back.
 - ☐ sides.
 - ☐ front. Move a woman's breast, as needed.



Compare one side to the other.

3.3 Normal:

- Clear, with no abnormal sounds.
- Sounds the same on both sides of body.
- Over the lungs:
 - ☐ breath sounds are breezy, swishy.
 - ☐ breathing in is louder and longer in time than breathing out.
- Over the windpipe and bronchi:
 - ☐ breath sounds are louder than over the lungs.
 - ☐ breathing out is the same or longer in time than breathing in.

3.4 Abnormal includes:

- Quieter than normal.
- On one side of body, breath sounds are different, such as:
 - ☐ absent breath sounds.
 - ☐ in an area over the lungs, it may sound more like listening over the windpipe.
- Rales ("crackles"), rhonchi ("snoring sounds"), or wheezes heard, as in chart 3.4.
- Other abnormal sound heard.

3.5 If abnormal breath sound heard:

- Have patient cough.
- Listen again.

• Describe:

- ☐ what you heard.
- ☐ where you heard it.
- ☐ if you heard it when patient breathed in or out.
- ☐ if it changed with cough.

4. If Abnormal, Percuss

It may help you to make an assessment if you use percussion when chest exam is abnormal, including when breath sounds are:

- Quieter or louder than normal.
- Different on one side of body.

4.1 To percuss an area:

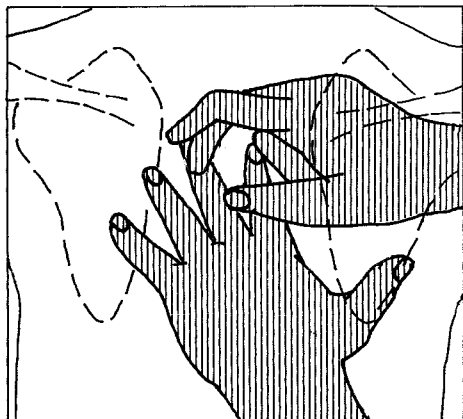
- Press finger of one hand *firmly* on skin.
 - ☐ no other fingers should press skin.
- Percuss against that finger with:
 - ☐ pointer or long finger of other hand.
 - ☐ percussion hammer, if you can not percuss well with your other hand.

Chart 3.4

Abnormal Breath Sounds

Exam	Rales	Rhonchi	Wheezes
WHAT DO THEY SOUND LIKE?	Moist crackling sounds.	Snoring, rumbling sounds.	Musical, high pitched, whistling, sighing sounds.
WHEN HEARD IN BREATHING CYCLE?	Usually at end of breathing in.	Often both when breathing in and out. Usually heard earlier in time than rales.	Either breathing in or out.
CHANGE WITH COUGH?	Usually do NOT change.	Yes. They change or go away.	Do NOT change, if they are much of a problem.
HEARD WITH WHAT PROBLEMS?	Pneumonia. Heart failure. Heard especially in lower lungs.	Upper respiratory infection, bronchitis, others. (Sometimes can also be felt, as with "rattles" in child's chest).	Bronchitis, and in smokers: A few wheezes heard when breathing in or out. Asthma: Heard when breathing out. Patient who breathed in foreign body: Heard in one area of chest.
WHAT CAUSES THESE SOUNDS?	Air moving through pus or other fluid in smaller air passages.	Air moving by mucus in larger air passages	Air moving through middle-sized air passages that have narrowed.

- Quickly percuss spots that are about ½ to 1 inch apart.
 - ☐ percuss in same areas where you listened.
 - ☐ compare one side of body to the other.



Percuss with finger or percussion hammer.

4.2 Sounds heard with chest percussion may mean the following:

- Hollow sound:
 - ☐ normal hollow sound: air in lungs.
 - ☐ more hollow than normal all over the chest: chronic lung disease (emphysema).
 - ☐ more hollow than normal on one side: collapsed lung.
- Dull sound on one side:
 - ☐ tissue (heart, liver).
 - ☐ if at bottom part of lung: fluid in chest cavity, or pneumonia.
 - ☐ if only in middle or upper part of lung: pneumonia, tumor.

EXAMINING THE BACK

Summary EXAMINING THE BACK

1. Appearance.
2. Soft Tissues and Spine Bones.
3. Movement of Back.
4. Other exam, if needed.

General Approach

For most patients:

- You will observe patient as he walks.
- With patient sitting, as you examine the chest, you should look at appearance of back and compare one side of body to the other.

If needed, do a more complete exam as follows:

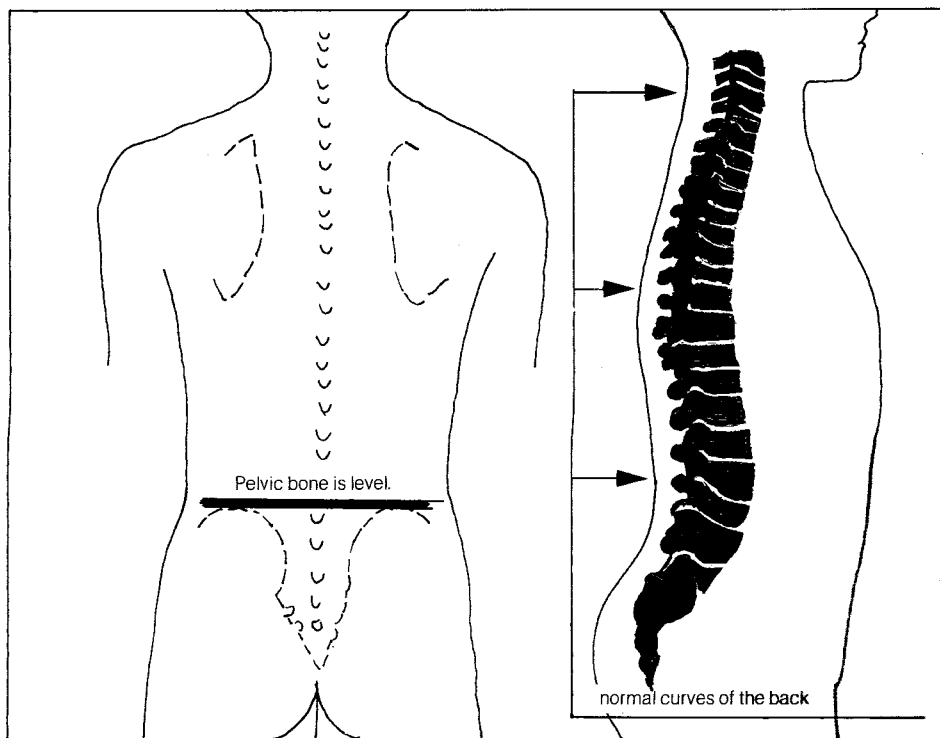
1. Appearance

1.1 Have patient stand. Observe posture and appearance of back.

- Look from behind patient, and next from beside patient.

1.2 Normal:

- Good posture.
- Looking from behind patient:
 - ☐ back looks the same on both sides of body.
 - ☐ spine is straight (in a head to toe direction).
 - ☐ both shoulder blades are at same level.
 - ☐ pelvic bone is level, straight across lower back.
- Looking from beside patient, back has normal curves.



Back: normal appearance.

Normal posture.

2. Soft Tissues and Spine Bones

2.1 Feel skin, muscles, and other soft tissues in areas where there is a problem.

• **Abnormal** includes:

- ☐ muscle is tender and feels firmer than normal (muscle spasm).
- ☐ muscle feels smaller than normal.

2.2 If back pain, also feel spine bones for tenderness:

- Start away from the painful area and work toward it.
- **Abnormal:** Bone is tender in one spot, even when pressing another (may mean fracture or other bone problem).

3. Movement of Back

Have the patient stand. As you examine, tell patient, "Bend as far as you can without causing pain."

3.1 Have patient bend forward at the waist, to touch toes.

3.2 Hold patient's pelvis with your hands, to keep it from moving. Have patient do the following:

- Bend sideways one way, then the other way.
- Bend backwards, toward you.
- Twist shoulders one way, then the other way.

3.3 Normal:

- When bending forward, back looks the same on both sides of body.
- Spine moves smoothly, without pain, through its normal range (normal range of motion) on both sides of body.

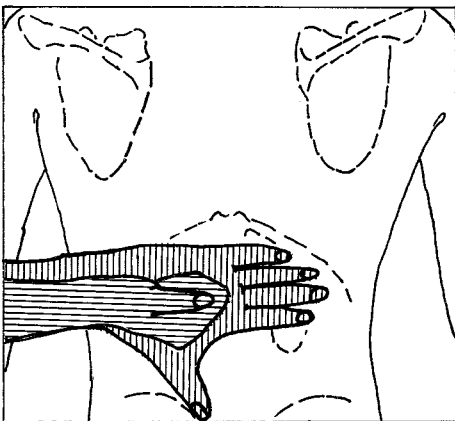
3.4 Abnormal includes:

- When bending forward back looks different on one side of the body. For example, one shoulder blade may stick out more if spine has abnormal curve (scoliosis).
- Pain.
 - if patient has muscle spasm on one side, the painful side will often hurt more when bending away from that side, which stretches the muscle.
- Decreased range of motion.

4. Other Exam, If Needed

4.1 *If possible kidney infection, hit gently in each kidney area to check for tenderness, as in next drawing.*

- If NOT tender, hit a little harder.
- **Normal:** NOT tender.
- **Abnormal:** Very tender (CVA tenderness).

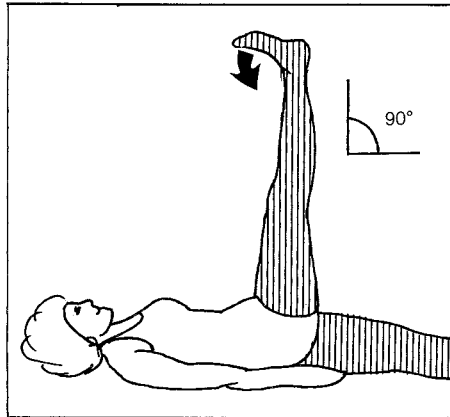


Hit gently in each kidney area.

4.2 *If low back pain, check straight leg raising:*

- Have patient lie down on his back.

- Hold patient's ankle. With the leg straight, slowly raise it up as far as is comfortable.
- If this does NOT hurt much, with the leg raised, bend the ankle toward the knee.



Slowly raise leg up. Then bend ankle toward knee.

- **Normal:** You can raise leg up to a 90° angle (like a square) and bend the ankle. Back of thigh muscle (hamstring) may feel a little tight.
- **Abnormal:** low back pain hurts worse with straight leg raising (may mean disc or nerve problem).

EXAMINING THE HEART

Summary EXAMINING THE HEART

1. Look and Feel for Heartbeat.
2. Listen with Stethoscope:
 - Heart rhythm.
 - Heart sounds.

1. Look and Feel for Heartbeat

In certain patients, you may be asked to do this.

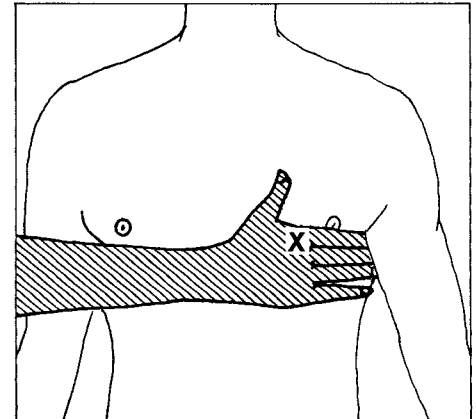
1.1 Have patient lie down, if possible.

1.2 Look carefully for heartbeat:

- Look near the left nipple.
- Look for movement of the chest wall when the heart beats.

1.3 Feel for heartbeat:

- Lay the palm of your hand on the chest, as shown in next drawing.
- Feel for where heartbeat is the strongest.



Normal: heartbeat is felt here.

1.4 If heartbeat seen or felt:

- Where?
- What does heartbeat look or feel like?
- How long does each beat seem to last?

1.5 Normal: In most patients, you do NOT see the heartbeat, but may feel it. *If seen or felt:*

- It is found where shown in picture above, in one small area about the size of dime or quarter.
- It does NOT feel very strong.
- If infant or small child, heartbeat may be found in a larger area and be stronger.
- Heartbeat happens quickly.

1.6 Abnormal may include (if heart is enlarged) heartbeat that:

- Is seen or felt closer to the left side of body than where normal is felt.
- Feels stronger and lasts longer than normal.

2. Listen with Stethoscope

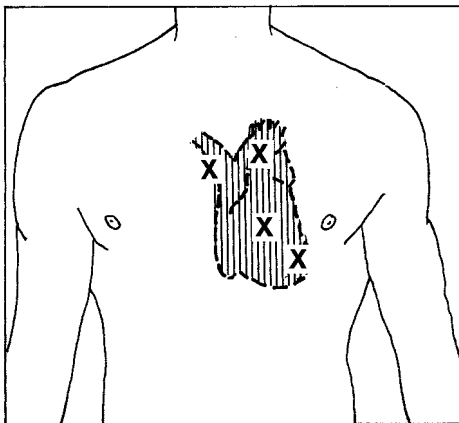
Listen to the heartbeat. What does it sound like? Check the following:

2.1 Heart Rhythm

- If possible heart problem, listen for at least one minute.
- **Normal:** heart rhythm is regular.
- **Abnormal:** heart rhythm is NOT regular (irregular), uneven; has extra beats or pauses.
- *If heart rhythm is NOT regular:*
 - ☐ describe it.
 - ☐ count the heart rate (apical rate).**Normal:** Apical rate should be same as pulse rate.

2.2 Heart Sounds

- Listen in several areas on front of chest, as in next drawing:
 - ☐ near left nipple.
 - ☐ across from nipple, on left side of breastbone.
 - ☐ higher up on left side of breastbone.
 - ☐ on right side of breastbone, in one or two places.
 - ☐ if abnormal, it may help to listen in more areas, and with patient in different body positions (such as lying on left side; sitting up, leaning forward). Write down if abnormal sound changes with position.



Listen to heartbeat in these areas.

- **Normal:**
 - ☐ two heart sounds are heard for each heartbeat.
 - ☐ heart sounds like "lub dub."

- **Abnormal:**
 - ☐ louder or quieter than normal.
 - ☐ heart murmur: a swishing sound heard (may be from abnormal blood flow).
 - ☐ extra sounds (more than two sounds for each heartbeat).

EXAMINING THE BREASTS

Summary EXAMINING THE BREASTS

1. Appearance.
2. Feel for Lymph Nodes.
3. Feel for Breast Lumps.
4. Nipples.
5. Encourage Patient to Do Self-Exam.

General Approach

This section is written as if you were examining a woman's breasts. If you are examining a man's breasts, use the same guidelines.

Reassure patient. Do the following:

- Keep exam private. Have people leave the room, if not needed.
 - ☐ if you are a man, you may want to have a woman stay in the room with you.

Undress: Have patient uncover chest from waist up, so that you can see the whole area well.

- Give woman a drape to cover herself.

As you examine:

- Have good light.
- Compare one side of the body to the other.
- Explain to patient what you are doing. Teach and have patient practice, for self-exam.
- If abnormal, be sure to report to referral doctor.

1. Appearance

Look at the breasts, skin, and nipples:
1.1 Look carefully as you have patient do the following things:

- Sit with arms at sides.
- Raise arms overhead.
- Lean over, with arms stretched forward.
- Tighten chest muscles by pushing palms of hands together.

1.2 If large breasts, lift them up to see all areas of the skin.

1.3 Normal includes:

- Size and shape of breasts may NOT be exactly the same but are normal for the patient.
- Adolescent girl or boy may have enlargement of one or both breasts.

1.4 Abnormal includes:

- Change in size of breast, such as a swelling or shrinking.
- Skin change such as redness, thickening, scaliness, or if skin in any spot looks pulled in (retraction, dimpling, or puckering).
- Nipple discharge or bleeding.
- Nipple change, such as if one nipple sticks out more than the other (elevation), nipple turns inward, or rash.

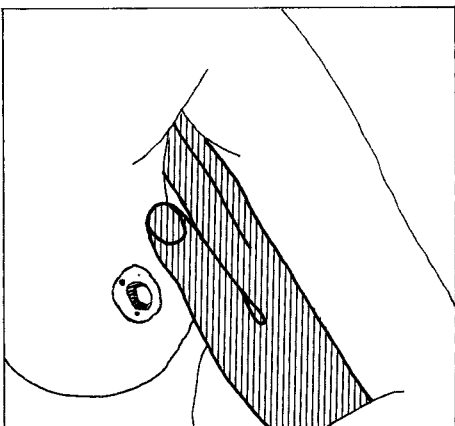
2. Feel for Lymph Nodes

2.1 Have patient sit with arms at sides.

2.2 Support the patient's arm, while you feel in each armpit area for lymph nodes:

- Insert your hand as far into the armpit as you can.
- Press your hand against the chest wall, feeling for lymph nodes.
- While you continue to feel for lymph nodes, slowly remove your hand from armpit.

2.3 If you feel lymph nodes, note size, tenderness and if movable.



Feel for lymph nodes.

3. Feel for Breast Lumps

There are other ways to do this exam. Examine the way you have been taught. The following is recommended:

3.1 Have patient lie down on her back, with arms behind her head, if possible.

- *If large breasts*, to make breast lie flat, place a towel under chest/shoulder area on side you are examining, so that breast is tipped toward the center and flattened.

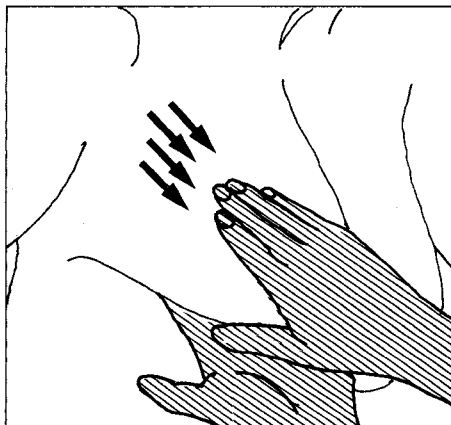
3.2 Feel for lumps in each breast.

- Feel with your fingertips:
 - ☐ place the flat part of your fingertips on the skin.
 - ☐ press gently but firmly.
 - ☐ use the middle three fingers to move *the skin* over the tissue underneath. Use a circular motion.
- Pretend that the breast is like the face of a clock as you examine the outermost part of the breast:
 - ☐ begin to feel for lumps at 12 o'clock.

- ☐ next move to 1 o'clock.
- ☐ continue to move around the clock and feel for lumps, including breast tissue near the armpit.
- ☐ it is normal to feel a ridge of firm tissue in the lower curve of each breast.

- When you get back to 12 o'clock:
 - ☐ move in an inch toward the nipple.
 - ☐ examine around the edges of a smaller clock.
- Continue to feel for lumps in this way until you have examined every part of the breast, including the nipple area.

3.3 *If large breasts*, in order to do a complete exam, feel for lumps with the woman in other positions, as in the next drawing.



3.4 *If you feel a lump*, carefully examine and report to your referral doctor:

- Location: Where exactly is the lump? Make a drawing. Put an X where the lump is.
- Size and shape: Measure, in mm. or cm.
- Is it tender to touch? If so, check for other signs of inflammation or infection: Is it warm, red, swollen?
- What does it feel like? For example, is it: soft, firm, hard?
- Is it movable or attached to something:
 - ☐ try to pick up or move skin over the lump.
 - movable = skin moves over the lump.

- attached to skin = lump moves with the skin.

- ☐ try to move/slide lump over tissue that is underneath.
 - movable = lump slides over tissue that is underneath.
 - attached to something = lump does not slide over tissue that is underneath. It feels like lump is attached.

- If it is near woman's period time, plan to recheck the lump right after period ends and report again to your referral doctor, even if exam is normal.

4. Nipples

4.1 *If nipple is turned inward*

(inverted), try to get it to turn back out:

- Gently press or pull on edge of nipple.
- **Abnormal** includes if nipple recently turned inward on one side and you can NOT get it to turn back out.

4.2 Check each nipple for discharge or blood:

- Press around the edges of nipple (nipple line).
- Gently squeeze nipple between your thumb and pointer finger.
- **Abnormal** includes discharge or blood. *If so*, examine:
 - ☐ how much is there?
 - ☐ what does it look like (color, clear or cloudy, thick or thin)?
 - ☐ what does it smell like?

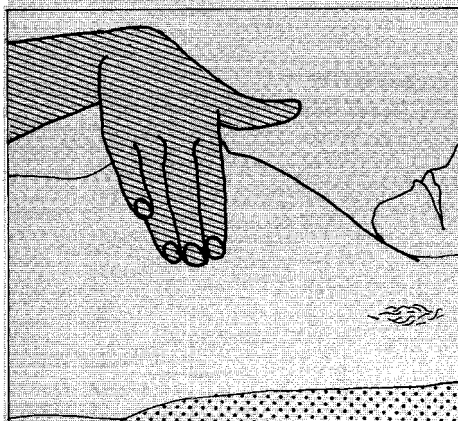
5. Encourage Patient to Do Self-Exam

Patient education should include information and advice in chart 5.

Chart 5

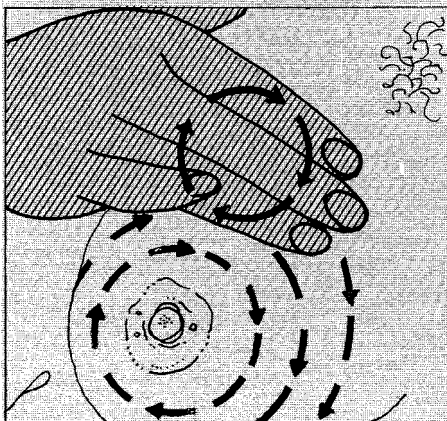
Patient Education **BREAST SELF-EXAM**

1. If you regularly do breast self-exam, you will:
 - **Know what is normal for you.**
 - **Find lumps or other problems early,** to prevent serious problems.
2. In a mirror, look carefully at your breasts, skin, and nipples for any changes. Do the following:
 - Sit or stand with arms at your sides.
 - Raise your arms overhead.
 - Lean over, with your arms stretched forward.
 - Tighten chest muscles by pushing palms of your hands together.
3. Feel for lumps in your armpit, with your arm relaxed at your side.
4. Examine your breasts while lying down:
 - Lie down on your back. On the side you are examining:
 - ☐ place a towel under your chest/shoulder area.
 - ☐ put your arm behind your head, if possible.

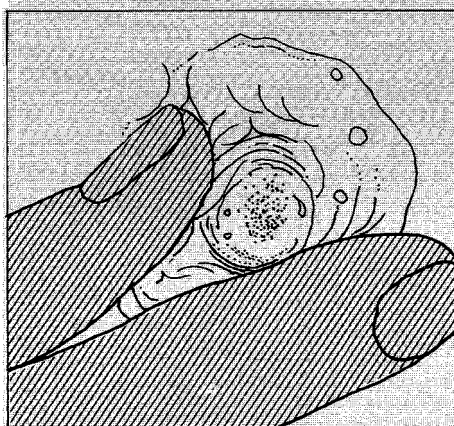


- Feel for lumps with the flat part of your fingertips as in the next drawing. Use a circular motion.
- Pretend that your breast is like a clock as you examine the outermost part of your breast:
 - ☐ begin to feel for lumps at 12 o'clock.

- ☐ next move to 1 o'clock.
- ☐ continue to move around the clock and feel for lumps, including breast tissue near your armpit.
- When you get back to 12 o'clock:
 - ☐ move in an inch toward your nipple.
 - ☐ examine around the edges of a smaller clock.
- Continue to feel for lumps in this way until you have examined every part of your breast, including your nipple area.



- Squeeze each nipple between your thumb and pointer finger to check for discharge or blood.



5. Do the above breast self-exam once every month. Do it a day or two after your period is finished or, if you are no longer having periods, on the first day of every month.

6. Feel for breast lumps whenever you take a bath or shower:
 - Your fingers will move easily over wet skin. You may feel a small lump that you missed when your breast was dry.
 - On the side you are examining, put your arm behind your head, if possible. Use your other hand to feel for lumps.
7. Remember warning signals that may be related to breast cancer:
 - Lump in the breast or armpit.
 - Skin changes such as redness, thickening, scaliness, or if skin in any spot looks pulled in.
 - Sore on the breast that does not heal.
 - Discharge or bleeding from the nipple.
 - Nipple change, such as if one nipple sticks out more than the other, nipple turns inward, or rash.
 - Change in size of breast, such as a swelling or shrinking.
 - Persistent breast pain or discomfort.
8. See your CHA/P:
 - Once a year for health surveillance.
 - Soon, if your self-exam is NOT normal or if you have concerns.
 - ☐ although most breast problems are NOT cancer, the doctor *may* want to biopsy (remove part of) a lump to check for cancer.
 - ☐ breast cancer found early and treated quickly has a good chance for cure.

EXAMINING THE ABDOMEN

Summary EXAMINING THE ABDOMEN

1. Appearance.
2. Listen With Stethoscope.
3. Percuss on Certain Patients.
4. Feel for Tenderness/Lumps.
 - Feel lightly, on surface.
 - Feel deeper in abdomen.
5. Feel for Liver and Spleen.
6. Feel Groin for Lymph Nodes and Pulse.

General Approach

Reassure patient. Do the following:

- Keep exam private. Have people leave the room, if not needed.
- Before you begin, talk with patient. Tell him that you will explain the exam as you do it.

Undress: Have patient uncover the abdomen as much as possible.

- Drape patient as shown in this section.
- If NOT possible to undress:
 - ☐ place drape over patient's groin and legs.
 - ☐ while the drape gives patient privacy, slide pants down and lift a dress or shirt up from the groin area.

Position. Patient should lie down, in position that feels comfortable. The following is best:

- On back with arms at sides.
- With a small pillow under head.
- With knees bent.

As you examine, do the following:

- Stand on patient's right side.
- Be gentle and sympathetic.
- Explain what you are doing.
- Listen before feeling. Feeling the abdomen may change the normal sounds.

- Check for pain/tenderness during your whole exam:
 - ☐ ask patient to tell you if the exam hurts.
 - ☐ patient's face will show pain.
 - ☐ muscles may tighten due to pain.
- Help patient to relax abdomen:
 - ☐ before touching abdomen, warm your hands, stethoscope. Wash hands in warm water, if possible.
 - ☐ if ticklish, place patient's hand on top of your hand to make patient feel like he is touching himself.
 - ☐ when you are feeling (palpating), patient should bend his knees a little bit or get in any other position that helps you to feel abdomen.
 - ☐ it may help to distract patient by talking, asking questions.

1. Appearance

General approach:

- For this part of exam, patient's legs should be out straight, if possible.
- Take time to look carefully before examining further.

1.1 Skin.

- **Abnormal** includes:
 - ☐ signs of injury: bruise, other.
 - ☐ unusual color.
 - ☐ rash.
 - ☐ veins large and seen easily.
 - ☐ scars. If so, it may help to make a drawing of location and size.

1.2 Shape or other appearance:

- **Normal:**
 - ☐ flat.
 - ☐ if a child, abdomen is larger than chest when young. "Pot belly" may be seen normally:
 - when lying, age 3 or less.
 - when standing, age 13 or less.
- **Abnormal** includes:
 - ☐ hollow, sunken.
 - ☐ swollen (distended).
 - ☐ fat (obese).
 - ☐ NOT the same on both sides.
 - ☐ lump (mass) seen, such as possible hernia: around the belly button (umbilicus), along a scar, or in the groin or scrotum.

2. Listen With Stethoscope

2.1 Listen in at least one place on abdomen: near belly button (umbilicus).

2.2 Bowel sounds. Note if:

- Normal.
- More than normal (hyperactive).
- Less than normal (hypoactive).
- NOT heard (absent). *If NOT heard:*
 - ☐ stimulate the bowel by moving the abdominal wall a little bit with your finger.
 - ☐ if NOT an emergency but you suspect a serious problem, sit down and listen for 5 minutes by your watch to make sure bowel sounds are absent.

2.3 Other abnormal sounds may include swishing sound of blood flowing through artery (bruit).

3. Percuss on Certain Patients

Use percussion especially:

- If abdomen is swollen (distended).
- If you suspect a lump or enlarged organ (liver, spleen).

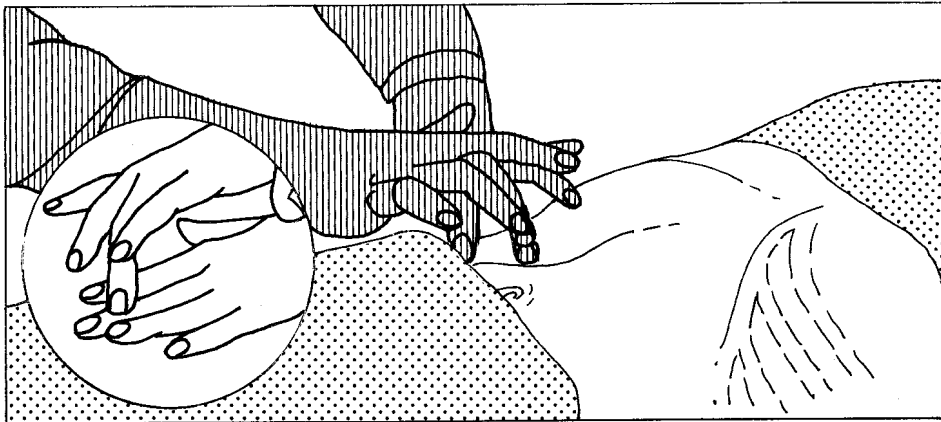
3.1 If small child, do this step last. This usually worries small children.

3.2 To percuss an area:

- Press finger of one hand *firmly* on abdomen. No other fingers should press abdomen.
- Percuss against that finger with:
 - ☐ pointer or long finger of other hand.
 - ☐ percussion hammer, if you can not percuss well with your other hand.
- Quickly percuss spots that are about ½ inch apart.

3.3 Sounds heard with abdominal percussion may mean the following:

- Very hollow, drum sound: air, gas.
- Dull sound: fluid or tissue.



Percussing the abdomen

4. Feel for Tenderness/Lumps

General Approach

Decide where to start:

- *If abdominal pain:*
 - ☐ ask patient to point with one finger to where it hurts.
 - ☐ start in part of abdomen that is far away from painful area. This will help to keep patient relaxed.
 - ☐ **feel the painful area last.**
- If no abdominal pain: start around the pubic bone and work up to the ribs, so you do not miss feeling a large liver or spleen.

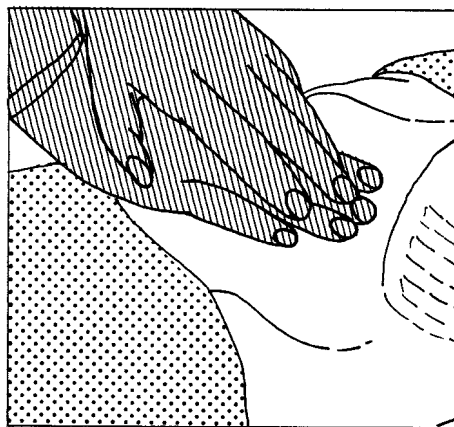
4.1 Feel Lightly, On Surface

- Use the palm of one hand, with the fingers together.
- Gently press the fingertips into abdominal wall about 1 cm.
- Feel all of the abdomen.
- **Abnormal** includes:
 - ☐ tenderness.
 - ☐ muscles that tighten.
 - ☐ lump (mass).
- *If muscles tighten* (guarding): ask patient to try to relax the muscles as you examine.
 - ☐ if patient can relax muscles: good sign.
 - ☐ if patient can NOT relax muscles: may be a bad sign (involuntary guarding).

- If lump on abdominal wall, check for possible hernia:
 - ☐ look and feel for increased bulge as patient coughs.
 - ☐ listen for bowel sounds over the lump.

4.2 Feel Deeper in Abdomen

- Use gentle, slow, steady pressure.
- Press fingertips in, more than rest of hand.
- If necessary, to feel deeper:
 - ☐ place your other hand on top of the first.
 - ☐ press with the second hand. Keep the first hand relaxed, to feel more easily.
- Feel all of the abdomen.
- **Normal** abdomen is soft, NOT very tender to touch.



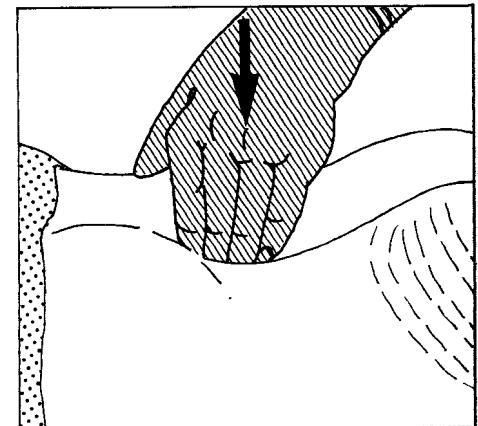
4.3 If tenderness

If abdomen is tender to touch, do the following:

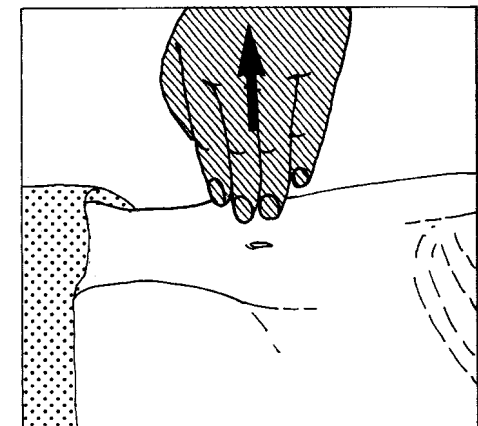
[1] Check for *rebound tenderness* in

several areas of the abdomen. Start away from painful area:

- First, percuss the abdomen. Does it hurt? If so, patient has rebound tenderness.
- If percussion does NOT hurt much, check further:
 - ☐ slowly push in until it hurts a little bit. Next, quickly let go.
 - ☐ if it hurts more when you quickly let go than when you push in, patient has rebound tenderness.



Slowly push in.



Next, quickly let go, to check for rebound tenderness.

- If letting go quickly does NOT hurt much, check further:
 - ☐ have patient stand up and hop once or twice on one leg.
 - ☐ if it hurts the patient at one spot in the abdomen, patient may have early signs of a serious problem.
- [2]** If rebound tenderness,
 - Where exactly does it hurt?
 - Usually, it will hurt in the area where

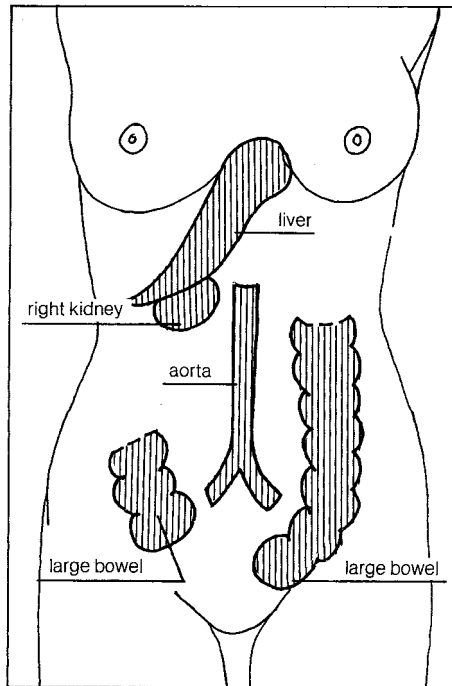
the main problem is, no matter where you press and let go.

- Usually lining of abdominal cavity (peritoneum) is inflamed.
- This is a serious problem. Patient needs transport to hospital.

4.4 If You Feel a Lump (Mass)

Carefully examine:

- Location: Where exactly is the lump? It may help to make a drawing.
- Size and shape.
 - ☐ measure the lump in cm. If needed, percuss to help you decide the size.
- Is it tender to touch?
- What does it feel like (soft, hard, pulsating, other)?
- Is lump inside or outside abdominal cavity? While you are feeling the lump, have patient lift head. Abdominal muscles will tighten.
 - ☐ if you can NOT feel lump anymore, just muscles, lump is inside abdominal cavity.
 - ☐ if you can still feel lump, lump is outside abdominal cavity.
- Is it movable or attached to something:
 - ☐ try to move/slide lump over tissue that is underneath.
 - movable = lump slides over tissue that is underneath.
 - attached to something = lump does not slide over tissue that is underneath. It feels like lump is attached.
 - ☐ if lump is outside abdominal cavity, also try to pick up or move skin over the lump.
 - movable = skin moves over the lump.
 - attached to skin = lump moves with the skin.
- **Normal:** In a healthy, thin, relaxed patient, you may feel:
 - ☐ in right upper quadrant (RUQ):
 - liver (it moves with breathing).
 - bottom part of the right kidney (felt very deep in abdomen).
 - ☐ in center of abdomen: abdominal aorta (large artery; it pulsates).
 - ☐ in right lower quadrant (RLQ): large bowel.
 - ☐ in left lower quadrant (LLQ): large bowel.



Normal: you may feel these organs.

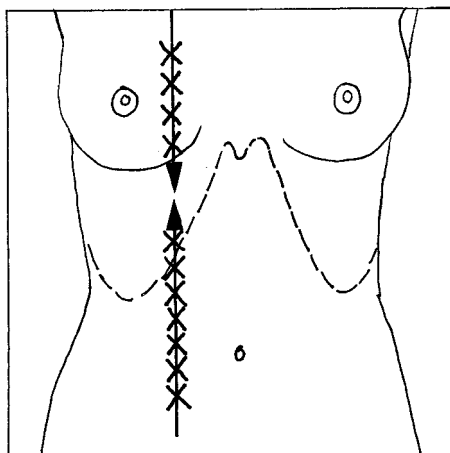
5. Feel for Liver and Spleen

General Approach

Position: You should stand at patient's *right* side.

If you feel liver or spleen:

- Note what it feels like: soft, hard, tender, other?
- Measure, in cm., in line with the nipple or middle of collarbone:
 - ☐ how far below ribs you feel it.
 - ☐ size, by percussion.

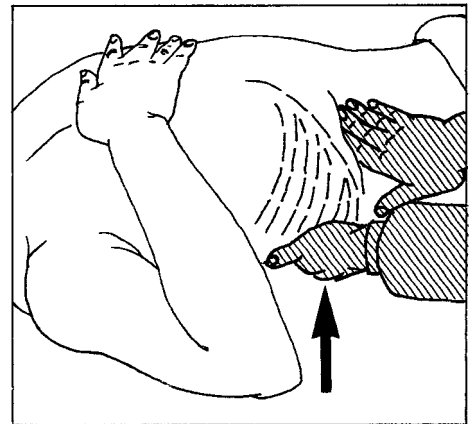


Percuss in these areas to check liver size.

5.1 Feel for Liver (on Right)

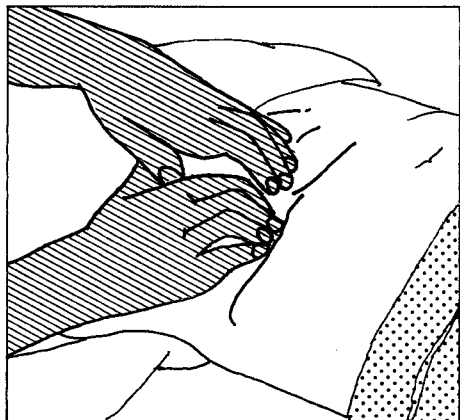
As in next drawing, do the following:

- Place your left hand behind patient's ribs.
- Pull ribs forward, in order to move liver forward and lift ribs out of the way.
- Place your right hand in the right upper quadrant (RUQ) just below the ribs:
 - ☐ about 2 inches below the ribs, in line with the nipple.
 - or—
 - ☐ lower than where you heard dullness to percussion.
- Lightly press in fingertips of your right hand.
- Say to patient: "Take a deep breath in... out."
- As patient breathes in,
 - ☐ keep right hand steady. Do NOT push fingers up to meet the liver.
 - ☐ enlarged liver edge will come down and hit your fingers.



- If you do NOT feel liver, do the following:
 - ☐ press fingertips in a little deeper, and have patient breathe in again.
 - ☐ try the same thing with the fingers of your right hand one inch closer to the ribs.
- If you still do NOT feel liver, try another way:
 - ☐ have patient place his fist under his ribs on right side, to push them forward.
 - ☐ in right upper quadrant (RUQ), curl both your hands around the ribs from above, as shown in the next drawing.

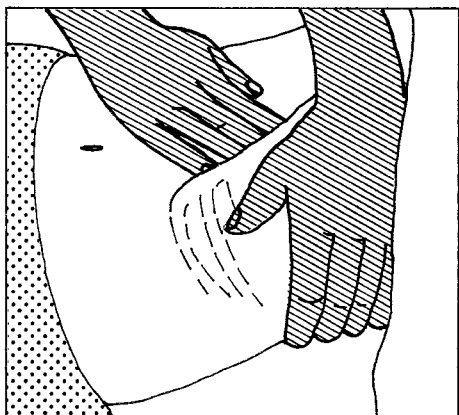
- ☐ say to patient, "Take a deep breath in ... out."
- ☐ **Normal:** With deep breath you may just feel liver edge, close to the ribs.



5.2 Feel for Spleen (on Left)

As in next drawing, do the following:

- Reach across patient with your left hand and place hand behind patient's ribs.
- Place your right hand in left upper quadrant (LUQ):
 - ☐ just below the ribs.
 - or—
 - ☐ lower than where you heard dullness to percussion.
- Say to patient: "Take a deep breath in ... out."
- As patient breathes in, bring your two hands closer together:
 - ☐ with right hand: press in and up under ribs. Feel for the spleen.
 - ☐ with left hand: pull ribs forward, out of the way.
- **Normal:** You can NOT feel the spleen.



6. Feel Groin for Lymph Nodes and Pulse

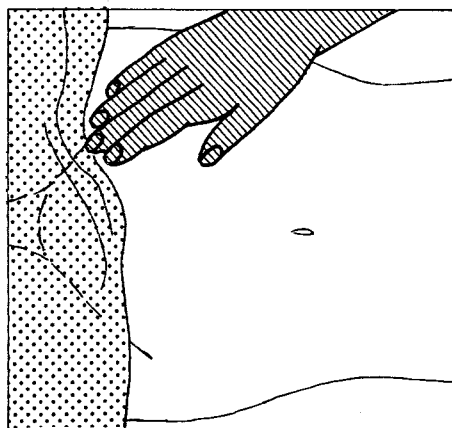
6.1 Feel for lymph nodes. If felt, note size, tenderness, and if movable.

- **Normal:** There may be a few lymph nodes felt that are:
 - ☐ small (less than 1½ cm.).
 - ☐ NOT tender to touch.
 - ☐ movable.

- **Abnormal:** Enlarged, tender lymph nodes.

6.2 Feel for pulse (femoral pulse) on each side of body.

- Feel strength of pulse. Decide if pulse is strong, weak, or NOT felt.
- Compare one side to the other.
- **Abnormal** includes if pulse is:
 - ☐ very weak or NOT felt.
 - ☐ stronger than normal.
 - ☐ different on one side of body.



Feel here for the groin (femoral) pulse.

EXAMINING THE ARMS AND LEGS

Summary EXAMINING THE ARMS AND LEGS

1. Appearance.
2. Soft Tissues.
3. Bones.
4. Joints.
5. Pulses.
6. Muscle Movement and Strength; Feeling (Sensation); Tendon Reflexes.

General Approach

As you examine:

- Compare one side of body to the other.
 - ☐ if patient has a complaint, check the good side first.
- Observe how patient moves and uses his arms and legs.

1. Appearance

Look at the arms and legs. Look at legs from the groin to the toes. Note anything that does NOT look normal, including:

1.1 Size and shape:

- Look carefully at muscles, bones, and joints.
- **Abnormal** includes:
 - ☐ swelling of legs or ankles.
 - ☐ different size of muscle, bone or joint on one side of the body. If different size: measure both sides at the same spot.

1.2 Skin.

- **Abnormal** includes:
 - ☐ color: pale; blue color of nails (cyanosis); brown color on lower legs.

- ☐ moisture: wetter or drier than normal.
- ☐ other appearance: less hair than normal; thick or deformed toenails; skin problem, such as a rash or sore.

1.3 Veins.

- **Abnormal** includes big, coiled-looking vein (varicose vein).

1.4 If normal history and appearance:

- If infant, now go to "4.3 Hips."
- For other patients, now go to "5. Pulses."

2. Soft Tissues

Check skin, muscles, veins, and other soft tissues in areas where there is a problem.

2.1 Feel lightly, on surface:

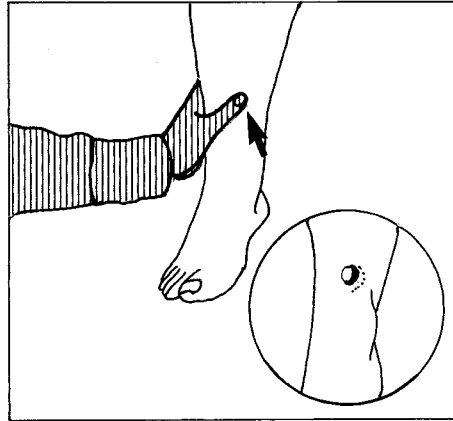
- Gently feel areas where there is a problem.
- **Abnormal** includes:
 - ☐ temperature: cooler or warmer than normal.
 - ☐ tenderness.
 - ☐ clotted leg vein just under skin: a tender, warm, red, swollen area found along the path of a vein, with a firm clot felt, like a cord under the skin.

2.2 Feel deeper. For example:

- Squeeze muscles.
- Feel tendons.
- **Abnormal** includes:
 - ☐ muscle is tender and feels more firm than normal (muscle spasm).
 - ☐ muscle feels smaller than normal.
 - ☐ tendon is tender.

2.3 If swollen area, check for pitting edema:

- Press thumb firmly into skin for 1-2 seconds.
 - ☐ if swollen lower legs, press thumb over shin bone, just above ankle area, as in next drawing.
- Remove thumb.
- **Normal:** skin springs back into shape.
- **Abnormal:** Thumb leaves a dent in the skin (pitting edema). This means there is too much fluid in the skin.

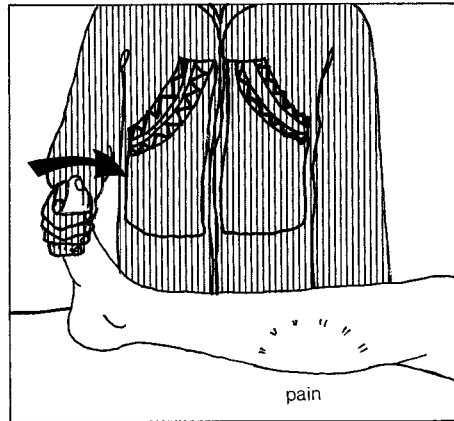


Check for pitting edema.

2.4 Feel for enlarged lymph nodes in the area (p.385). If felt, note location, size, tenderness, and if movable.

2.5 If calf pain or tenderness, check for deep leg vein problems:

- With leg straight, quickly push ball of foot (widest part) toward the knee, bending the ankle.
- **Abnormal:** Doing this causes pain in the calf (Homan's sign).



3. Bones

If pain in arm or leg, also feel for bone tenderness:

3.1 Start away from the painful area and work toward it.

3.2 Feel as much of the bone as you can. For example, feel along whole length of the shin bone.

3.3 If skin is abnormal, pick a place where the skin is normal. Press the

tender spot through normal skin.

3.4 Abnormal (may mean fracture or other bone problem):

- Bone is tender in one spot, even when pressing another area of bone or when pressing that spot through normal skin.

4. Joints

Examine a joint if patient has a problem with that joint or near that joint.

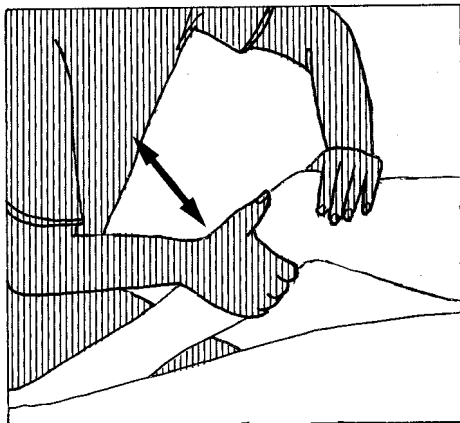
4.1 Joint movement:

- Tell patient: "Bend the joint as much as you can without causing much pain."
- Move the joint yourself. At the same time, feel joint for popping or grinding.
- **Normal:** Joint moves smoothly, without pain or grinding, through its normal range (normal range of motion).
- **Abnormal** includes pain, grating, or decreased range of motion.

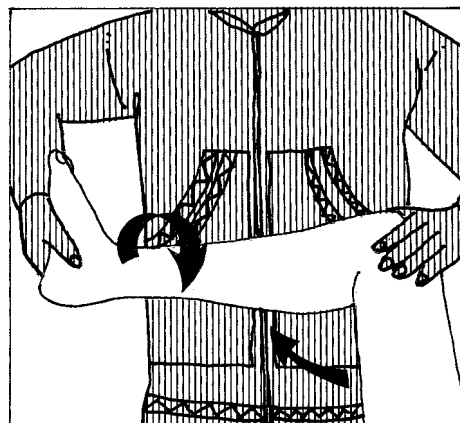
4.2 Ligaments. If history of joint problem or if abnormal joint exam, check the joint's ligaments:

- This is something that needs to be taught to you and practiced.
- You may need to hold the bone behind (proximal to) the joint you are examining, in order to prevent a different joint from moving.
- In general, you should gently but firmly try to move the joint in all directions it normally does NOT go.
- Hold the bone in front of (distal to) the joint. Do the following:
 - ☐ pull forward (toward front of body) and push backward.
 - ☐ push side to side.
 - ☐ twist.
 - ☐ check one side of joint at a time: Place your finger or hand on one side of joint while you "stress" ligaments on the other side as in the third drawing that follows.
- **Normal:**
 - ☐ exam is the same on both sides of body.
 - ☐ checking ligaments gently does NOT cause pain.
 - ☐ other findings depend on the joint you are examining.

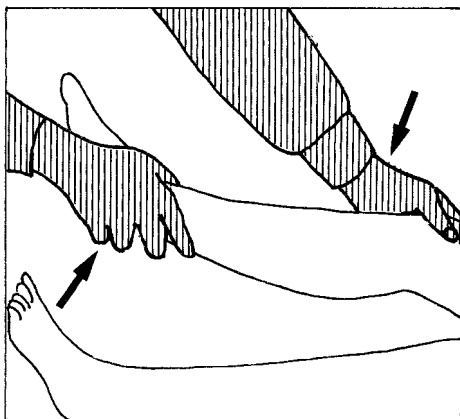
- Although this manual can not list detail for examining all ligaments, examples follow for the knee.



Pull forward and push backward on the lower leg.



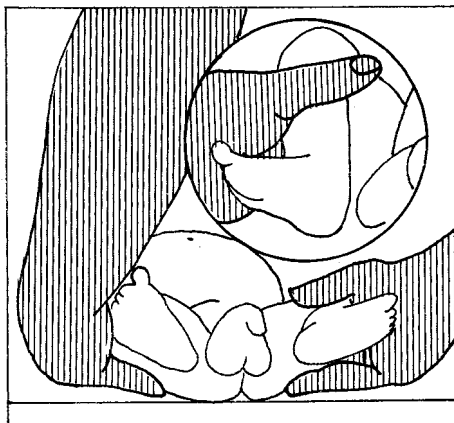
Twist the lower leg as you straighten the knee.



"Stress" the ligaments on both sides of joint.

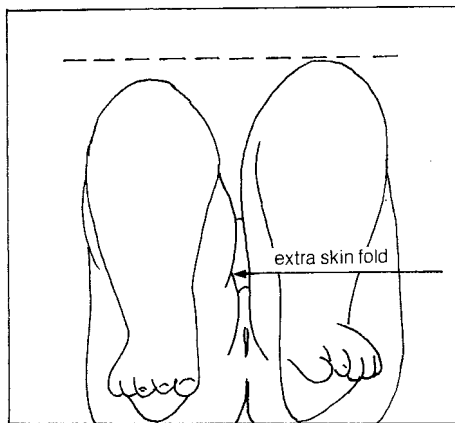
4.3 If infant, check hips:

- Examine appearance and movement as in the next drawings.
- **Normal:**
 - ☐ legs look the same on both sides of body.
 - ☐ there should be equal movement of both hips. Legs should go nearly out to the table.
 - ☐ you should not feel any clicks or clunks.

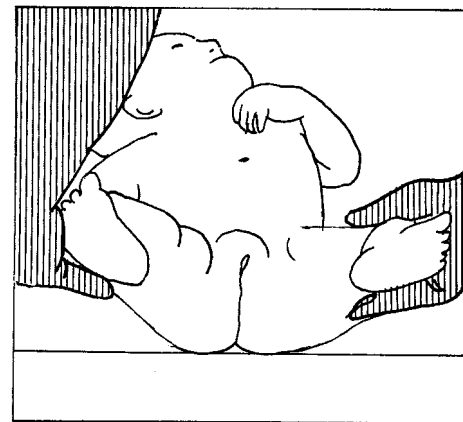


Normal hip movement.

- **Abnormal** (may mean dislocated hip):
 - ☐ more skin folds on one thigh.
 - ☐ height of one knee is lower.
 - ☐ one leg does not move as far out to the table.
 - ☐ click or clunk felt.



Abnormal hip exam. Height of right knee is lower than left.



Abnormal hip movement. Right leg does not move out to table as far as left leg.

5. Pulses

5.1 Check strength of each pulse (p.370), and compare one side of body to the other:

- Check in these places:
 - ☐ wrist (radial pulse).
 - ☐ top of foot (DP, dorsalis pedis pulse).

- Is pulse strong, weak, or NOT felt?

5.2 If pulse NOT felt on top of foot, check pulse behind medial ankle bone (PT, posterior tibial pulse).

5.3 If pulse NOT felt behind ankle bone, check pulse in groin (femoral pulse) (p.370).

5.4 If any pulse in foot is weak, check blood supply (arteries) as follows:

- Squeeze big toe. When you let go, skin color will look white.
 - ☐ **normal:** color returns to normal within two seconds after you stop squeezing (good capillary refill).
 - ☐ **abnormal:** takes longer than two seconds for color to return to normal (poor capillary refill).
- Check leg in different positions:
 - ☐ have patient sit, with legs hanging down, for 2-3 minutes.
 - look at skin color.
 - feel skin temperature.
 - ☐ next, have patient lie down.
 - elevate the leg to about 12 inches above level of heart.
 - look at skin color.
 - feel skin temperature.

- ☐ **normal:** Skin color and temperature will stay about the same, with leg in different positions.
- ☐ **abnormal,** from poor blood supply (artery disease):
 - with legs hanging down, skin color is bluish-red.
 - with leg elevated: skin color gets very pale; skin feels cooler.

6. Muscle Movement & Strength; Feeling (Sensation); Tendon Reflexes

These are checked in examining the nervous system. See p.406.

EXAMINING THE MALE GENITALS

Summary EXAMINING THE MALE GENITALS

1. Genital Area & Groin.
2. Scrotum.
 - Appearance.
 - Feel within the scrotum:
 - ☐ testicle and nearby area.
 - ☐ cord.
3. Penis.
4. Feel for Hernias in Certain Patients.
5. Take Culture for Gonorrhea in Certain Patients.
6. Encourage Patient to Do Self-Exam.

General Approach

If you are checking for gonorrhea, patient should NOT urinate for one hour before the exam.

Reassure patient. Do the following:

- Keep exam private. Have people leave the room if not needed.
 - ☐ if you are a woman, you may want to have a man stay in the room to help you.
- Talk with patient before you begin. Tell him that you will explain the exam as you do it.

Undress: Have patient undress from the waist down.

- Give patient a drape to cover the area when you are not examining.
- Have patient uncover genitals so that you can see the whole area well.

Have good light. Daylight is best. Use a flashlight, if needed.

If older child or adult:

- Wear examination gloves, to protect yourself. Wear two pairs if patient has sores from possible herpes.
- Position: It is usually easier to have patient stand.

As you examine, do the following:

- Be confident but gentle. It may help to uncover a small area at a time.
- Explain what you are doing.
- If you find a skin problem, examine closely (p.129).

Wash hands after the exam.

1. Genital Area & Groin

1.1 Appearance. Look carefully at all of the area near penis and scrotum:

- Pubic hair.
- Skin.
- **Abnormal** includes:
 - ☐ lice (crabs) or nits (tiny eggs) seen on pubic hair.
 - ☐ a sore, rash, growth, or other skin problem.
 - ☐ hernia: a swelling in the groin or scrotum, especially seen when patient strains (or when a baby cries). It may not be seen all of the time.

1.2 Feel in the groin for enlarged lymph nodes. If felt, note size, tenderness, and if movable.

- **Normal:** There may be a few lymph nodes felt that are:
 - ☐ small (less than 1½ cm.).
 - ☐ NOT tender to touch.
 - ☐ movable.

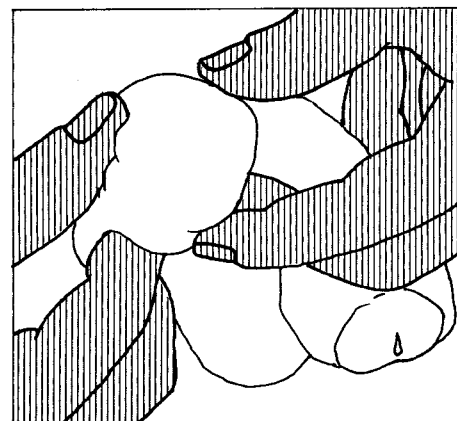
2. Scrotum

2.1 Appearance.

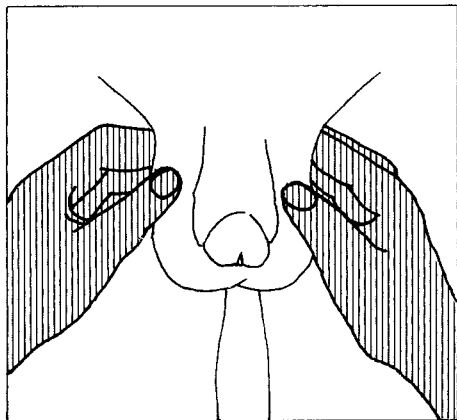
- Gently stretch out the skin to look at it all.

2.2 Feel within the scrotum:

- Gently feel testicle and the nearby area (epididymis).
 - ☐ gently roll each testicle between the fingers of both hands.
 - ☐ have patient practice doing this, for self-exam.
 - ☐ **normal:** Testicle feels smooth; NO lumps.
- Feel cord (spermatic cord).



Feel the testicle.



Feel the cord.

- **Abnormal** includes:
 - ☐ testicle not in scrotum (undescended testicle).
 - ☐ more tender to touch than normal. If very tender to touch, report to your referral doctor as soon as your exam is finished. This could be an emergency.
 - ☐ larger than normal, lump.
 - ☐ if an infant, it may feel like there is a "bag of water" (hydrocele) around the testicle.
 - ☐ firm/hard area.

3. Penis

3.1 Appearance. Look at all of the penis:

- Foreskin. If present, *gently* pull back or have patient pull back foreskin. Try to see the skin underneath.
- Head (glans) of penis.
- Opening of penis (opening of urethra, meatus).
 - ☐ look to see that opening is in normal location on penis.
 - ☐ spread the opening or have patient spread the opening. Look inside.
- Shaft (body) of penis.

4. Feel for Hernias in Certain Patients

You may need to do this exam (feel for inguinal hernias) in certain patients, including:

- If you are doing a screening physical exam, such as well child exam or school physical.
- If patient has pain in low abdomen, groin, or scrotum.
- If parent or you found swelling or lump in groin or scrotum.

General approach:

- Position: Patient should stand, if he is old enough to cooperate. It may help patient to:
 - ☐ stand on the leg opposite from the side of the body you are examining, and
 - ☐ relax the leg and bend the knee on the side of the body you are examining.

- Use your right hand to check patient's right side and left hand to check patient's left side.

4.1 Gently push your finger up and in on the loose skin of the scrotum:

- Decide which finger to use:
 - ☐ for most patients, use pointer finger.
 - ☐ if infant or small child, use your little finger.
- Start on the side of the scrotum, as far down on the scrotum as you can, so that you'll have enough skin to push in.

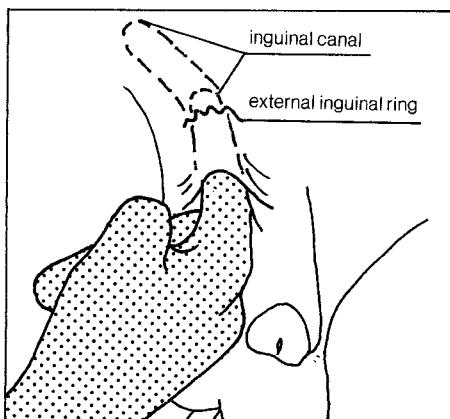
4.2 Push your finger up, beside the cord, under the skin.

4.3 Feel the opening (external inguinal ring) of the inguinal canal, which leads indirectly to the abdominal cavity.

- **Normal:** The opening is small; lets in your fingertip only.
- **Abnormal** includes:
 - ☐ opening is large enough to let in your finger.
 - ☐ lump is felt (inguinal hernia).

4.4 With your finger as far into the opening as you can get it, ask the patient to cough or strain/push down as if he were having a hard bowel movement (Valsalva maneuver).

- **Abnormal** includes hernia: Tissue pushes toward the opening and touches your finger.



Feel for a hernia.

5. Take Culture for Gonorrhea in Certain Patients

You may need to do this exam in certain patients, including:

- History of discharge from the penis or burning when urinating.
- Screening for gonorrhea.

See p.141.

6. Encourage Patient to Do Self-Exam

Patient Education TESTICLE: SELF-EXAM

Almost all cases of cancer of the testicle can be cured if found early.

1. Do this exam at least once every month.
2. Gently roll each testicle between the fingers of both hands.
 - A normal testicle is smooth, with NO lumps.
3. See your CHA/P if you find a lump or a change in your exam.

EXAMINING THE FEMALE GENITALS

In this section, information has been included about examining inside the vagina (internal exam, pelvic exam).

- At this time, most of the pelvic exam is an optional part of basic CHA/P training, except for feeling the cervix inside the vagina.

Summary EXAMINING THE FEMALE GENITALS

1. Genital Area & Groin.
2. Labia and Outer Vagina.
3. Insert Speculum to See Cervix.
4. Take Culture for Gonorrhea.
5. Do a Pap Smear, If Needed.
6. Look at Vagina as You Remove Speculum.
7. Feel Inside Vagina.

General Approach

Before you examine the genitals:

- Have patient urinate.
- Part of a complete female exam includes examining the breasts and abdomen.

Get equipment/supplies ready for what you will be doing:

- Good light.
 - ☐ plan to have a helper hold a flashlight, if needed.
- Examination gloves.
- Speculum and warm water.
- Lubricating jelly (K-Y®, Lubafax®).
- Materials for wet prep of vaginal discharge (p.115).
- Materials for gonorrhea culture (p.141).
- Materials for Pap smear (step 5).

Reassure patient. Do the following:

- Keep exam private. Have others leave the room if not needed.
 - ☐ if you are a man, you may want to have a woman stay in the room to help you.
- Before you begin, talk with patient:
 - ☐ explain to her what you will be doing and why.
 - ☐ tell her that you will explain the exam as you do it.
 - ☐ if she would like, give her a hand mirror to hold so she can watch the exam.
 - ☐ tell her that exam will be easier for her if she relaxes abdominal muscles and leg muscles.

Undress: Have patient undress from the waist down.

- Give patient a drape to cover herself.

Wash hands before and after the exam.

Wear examination gloves to protect yourself if examining:

- Older child or adult.
 - ☐ wear two pairs if patient has sores from possible herpes.
- Vagina of patient any age.

Position: Patient should lie on exam table with feet in stirrups, buttocks to the end of table, and knees wide apart.

- It may help patient if you raise head of table, so she can still see your face.

As you examine, do the following:

- Be confident but gentle.
- Encourage patient to relax abdominal muscles and leg muscles.
- Reassure patient, as needed. Tell her, "You're doing fine."
- Explain what you are doing.
- If you find a skin problem, examine closely as on p.129, "Rash, Sore, or Growth on Genitals."
- Remember that you must write down all that you examine.

1. Genital Area & Groin

1.1 Appearance: Look carefully at all of the area near genitals:

- Pubic hair.
- Skin.
- Anus.
- **Abnormal** includes:
 - ☐ lice (crabs) or nits (tiny eggs) seen on pubic hair.
 - ☐ a sore, rash, growth, or other skin problem.

1.2 Feel in the groin for enlarged lymph nodes. If felt, note size, tenderness, and if movable.

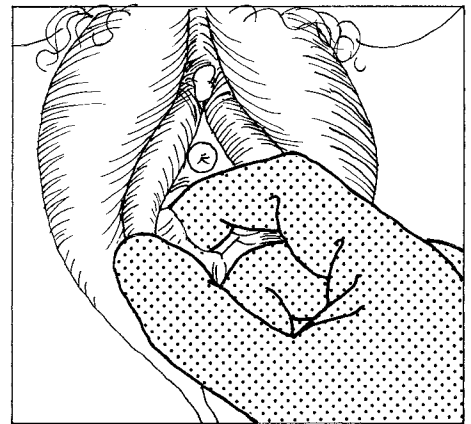
- **Normal:** There may be a few lymph nodes felt that are:
 - ☐ small (less than 1½ cm.).
 - ☐ NOT tender to touch.
 - ☐ movable.

2. Labia and Outer Vagina

2.1 Appearance:

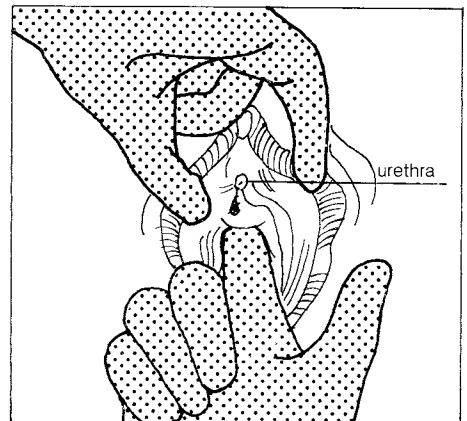
- Gently spread/stretch out the skin to look at all of the area, including clitoris and opening of urethra.
- **Abnormal** includes:
 - ☐ a sore, rash, growth, or other skin problem.
 - ☐ discharge.
 - ☐ abnormal bulge from ceiling of vagina (cystocele) or from floor of vagina (rectocele).

2.2 Feel the lower part of vagina on each side (Bartholin's glands), as in the next drawing.



2.3 Stroke top wall of vagina (Skene's gland) outward, as in next drawing.

- If tenderness or discharge, take culture for gonorrhea from urethra. Use a calcium alginate swab (CalgiswabR) and roll swab on culture plate as on p.142.



3. Insert Speculum to See Cervix

Do this in adult patient if you have been taught:

3.1 Dip speculum into warm water.

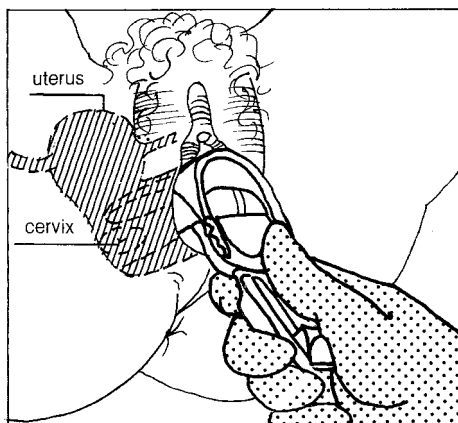
3.2 Encourage patient to relax muscles of vagina.

3.3 Gently insert closed speculum into vagina:

- Take care not to injure the urethra or other soft tissue.
- When speculum is properly placed, it will point downward, toward tailbone.

3.4 Open the blades to see cervix.

- If you can **NOT** see cervix, try again:
 - ☐ withdraw speculum half-way.
 - ☐ aim speculum differently.
 - ☐ insert speculum.
 - ☐ open the blades.
- When you can see cervix well, adjust speculum to stay open.



3.5 Normal cervix:

- Smooth, pink, healthy-looking mucous membranes.
- May have a small amount of clear, stringy mucus.
- Opening of cervix (cervical os) is larger and not as round in someone who has had a child.

3.6 Abnormal cervix may include seeing the following:

- Discharge.
- Inflammation: red, "meaty"; swollen; bleeds easily; may even have erosion, an "eating away" of tissue.
- White color.
- A sore, rash, or growth.

3.7 If vaginal discharge, take sample now for "wet prep", if available (p.115).

4. Take Culture for Gonorrhea

4.1 Do this on every patient, as on p.141.

5. Do a PAP Smear, If Needed

Do a Pap smear:

- If cervix looks abnormal, or
- If due for health surveillance. Do once a year if:
 - ☐ woman is sexually active, no matter what her age.
 - ☐ over age 21.

Do NOT do a Pap smear if:

- Woman is having period or heavy discharge.
- You are NOT sure you have found the cervix. Refer this woman to PHN or doctor.

PAP SMEAR

Equipment/supplies needed:

Examination gloves
Speculum
Sterile cotton tipped swabs (Q-tips®)
0.9% SODIUM CHLORIDE solution (normal saline), dropper bottle
Pap smear stick (wooden paddle)
Glass slide
Cytology spray or hair spray
Lab slip, filled out
Other supplies, depending on what is used in your region

5.1 Do Pap smear the way you are taught in your region.

- Be sure to spray the slide right away so the cells do not dry and become distorted. Speed is important.

6. Look at Vagina as You Remove Speculum

6.1 Slowly remove speculum, while you continue to look at walls of vagina:

- Try to see as much of the vagina as possible, but do not cause pain or pinching.
- Slowly close speculum as you remove it.

6.2 Normal vagina:

- Moist, shiny, pink mucous membranes.
- May have some clear mucus, a normal vaginal discharge.

6.3 Abnormal includes:

- Abnormal mucous membranes, such as:
 - ☐ dry, thin membranes.
 - ☐ sore, rash, or growth.
 - ☐ white patches that do not wipe off.
- Abnormal discharge.
- Abnormal bulge from ceiling of vagina (cystocele) or from floor of vagina (rectocele).

7. Feel Inside Vagina

Even if you have not been taught to insert speculum, you may need to find the cervix and feel it in certain women, including:

- If woman has possible infection in fallopian tubes (PID, Pelvic Inflammatory Disease).
- In order to feel for IUD string.

7.1 Lubricate the pointer and middle fingers of one hand with lubricating jelly (K-Y®).

7.2 Spread the labia/skin apart with your other hand while you gently insert the lubricated fingers into the vagina.

- If very small vagina, use one finger for this exam.

7.3 Feel along the vagina for tenderness and lumps.

7.4 Find the cervix and feel it:

• **Normal:**

- ☐ if NOT pregnant, cervix is firm to the touch, like feeling the tip of your nose.
- ☐ if pregnant, cervix is softer, like feeling your pursed lips.
- ☐ if woman has IUD, you will feel IUD string.

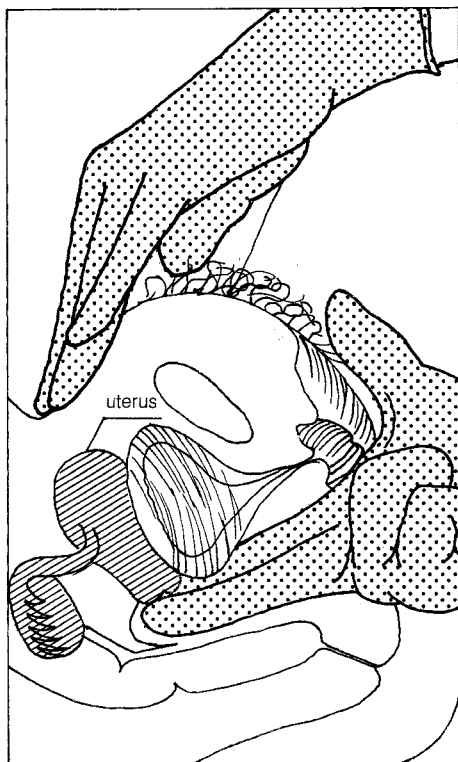
7.5 Move the cervix with your two fingers:

- Place one finger on either side of the cervix.
- Move the cervix from side to side.
- **Normal:** Moving cervix is NOT painful.

7.6 Feel the uterus:

- Place your two fingers underneath the cervix and push up.

- With your other hand above the pubic bone, push down to feel top of uterus.
- ☐ if you can not feel uterus between your hands, you should still check for movement and tenderness.

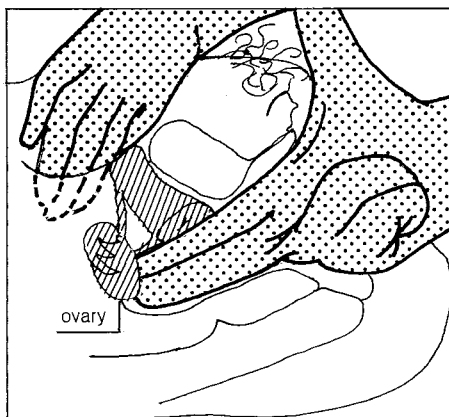


Feel uterus.

- **Normal** uterus:
 - ☐ top feels smooth and round, like feeling top of a light bulb.
 - ☐ size: smaller than the patient's fist.
 - ☐ moves easily between your hands.
 - ☐ is NOT tender to touch.

7.7 Feel for the right and left ovaries:

- Move your fingers to right side of patient's cervix as in next drawing.
 - ☐ raise the fingers, and hold them still.
- With your other hand on the lower abdomen, gently press down. Try to feel the right ovary against fingers that are in the vagina.
- Repeat on left side to feel left ovary. Compare one ovary to the other.
- **Normal** ovary:
 - ☐ size: about the size of the end (distal) bone of big toe.



Feel ovary.

- ☐ feels firm.
 - ☐ is a little bit tender to touch.
 - ☐ moves easily.
 - **Abnormal** includes:
 - ☐ larger than normal.
 - ☐ harder or softer than normal.
 - ☐ very tender to touch.
- 7.8 When exam is finished:
- Cover patient with drape and give her a tissue for wiping.
 - Help her to a sitting position. Have her sit for a little while before standing.

EXAMINING A PREGNANT WOMAN'S UTERUS

EXAMINING A PREGNANT WOMAN'S UTERUS

1. Fundal Height.
2. Presentation.
3. Fetal Heart Rate.

General Approach

These special things are done as part of a prenatal exam (p.154).

Place woman on back in comfortable position.

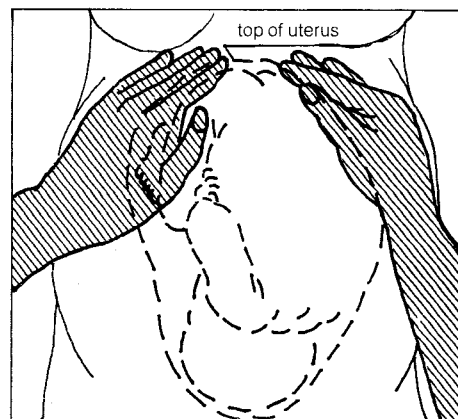
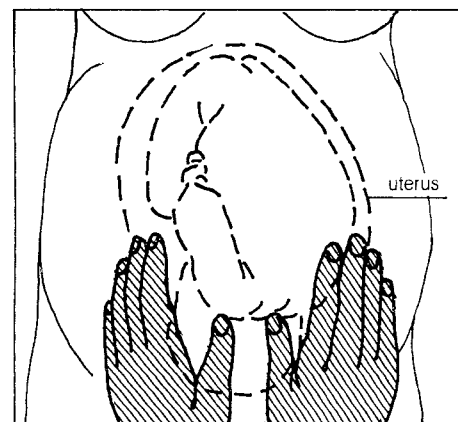
- It may be easier to examine if woman relaxes her abdomen by bending knees a little bit.
- Pull pants down to below pubic bone.
- Raise blouse to just below breast area.

1. Fundal Height

Fundal height = measurement (in cm.) from top of pubic bone to top of uterus (fundus).

1.1 Find top of uterus:

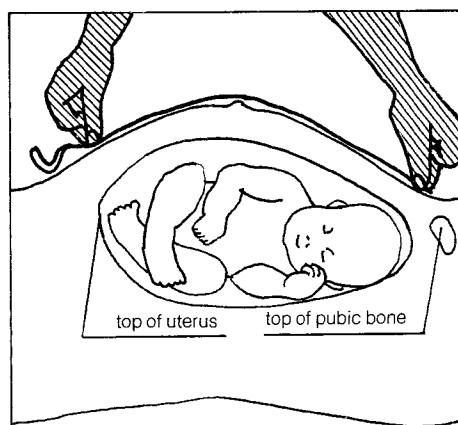
- Start in the low abdomen and place your hands on either side of uterus, if it is large enough (16 or more weeks pregnant).
- Feel uterus between your hands.
- Move your hands up sides of uterus until your hands curve and meet at top of uterus.
- When you find it, it may help to write a small mark on the spot so you can measure it correctly.



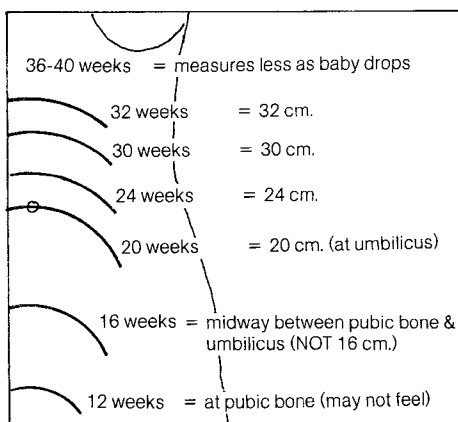
1.2 Find the pubic bone:

- Be gentle but firm.
- Find top of pubic bone, where pubic bone stops and abdomen starts.

1.3 Measure from top of pubic bone to top of uterus. **Measure in centimeters.**



Measure fundal height.



Normal Fundal Heights

1.4 If abnormal:

- Less cm. than weeks pregnant may mean:
 - ☐ wrong due date.
 - ☐ small baby for dates, maybe from problem with mother, such as severe anemia, alcohol or other drug abuse, smoking, chronic disease.
- More cm. than weeks pregnant may mean:
 - ☐ wrong due date.
 - ☐ twins.
 - ☐ tumor.
 - ☐ too much fluid for some other reason (polyhydramnios).

2. Presentation

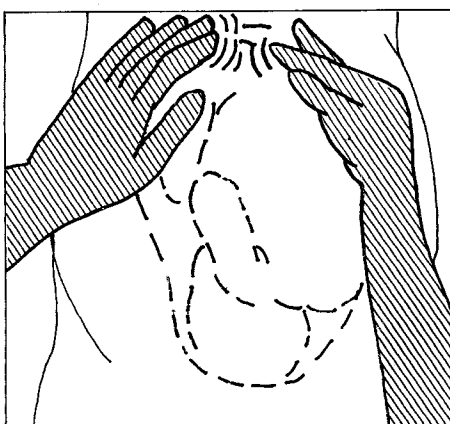
Presentation = how baby is lying inside uterus. If baby were to be born now, what part would come out (present) first?

- Head first (vertex, Vtx.)
- Feet or butt first (breech).
- Baby lying crosswise (transverse).

Do all of this exam at every visit, beginning at 28 weeks of pregnancy, even if you think you know how baby is lying.

2.1 First feel what is in top part of uterus (fundus).

- Place your hands on each side of fundus.
- Feel. Be gentle but firm. You may feel:
 - ☐ head (feels round and hard).
 - ☐ butt and legs (feel bumpy and soft).



Feel top of uterus.

2.2 Next, feel sides of uterus:

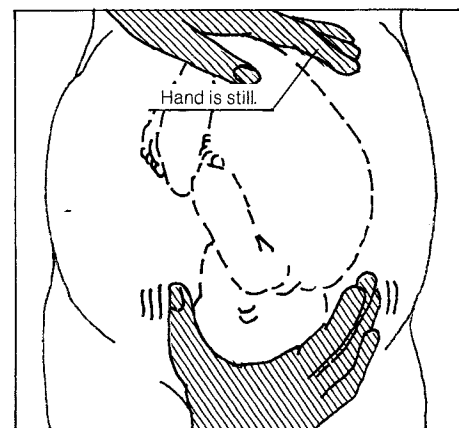
- Hold left hand still and feel with your right hand.
- Hold right hand still and feel with your left hand.
- Decide which side back is on:
 - ☐ back feels smooth, firm.
 - ☐ arms and legs feel like small bumpy parts.



Feeling right side of uterus.

2.3 Feel lower part of uterus:

- Curve one hand around top of uterus.
 - ☐ hold hand still.
- Place other hand just above pubic bone, with fingers curved, pointing down toward exam table.
 - ☐ gently move your fingers from side to side.
 - head feels round and hard.



Feel lower part of uterus.

2.4 Normal:

- You should be able to decide presentation by 28 weeks.
- Head should be down by 36 weeks.

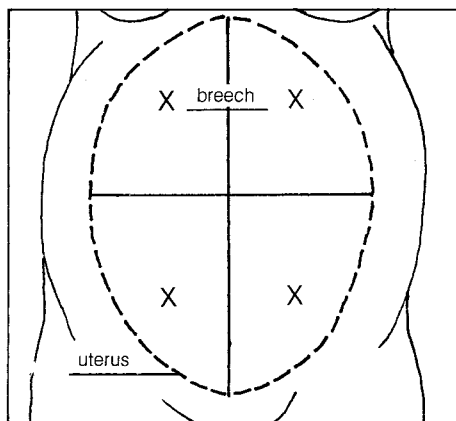
3. Fetal Heart Rate

The fetal heart is first heard:

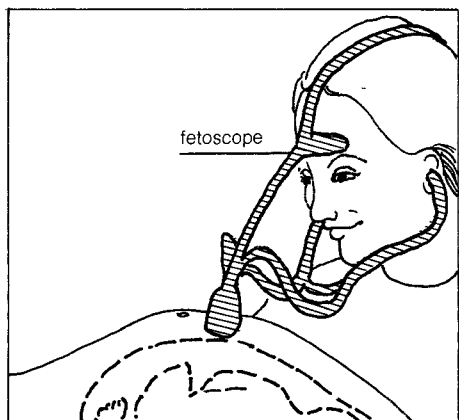
- 18-20 weeks with fetoscope.
- 12-16 weeks with Doptone®.

3.1 First find the fetal heart sounds.

- As you listen, if you can NOT hear the heart sounds, move the fetoscope a little bit and listen again. Repeat, if needed, across to the other side of abdomen.
- Listen in the following areas, as needed:
 - ☐ over the place where you felt baby's back.
 - ☐ over lower part of uterus.
 - ☐ over upper part of uterus.



Common places to hear fetal heart.



Listening to the fetal heart.

3.2 Count the rate (FHR, fetal heart rate):

- It may help to tap your finger as you count the rate.
- Count for 15 seconds and multiply by 4.
- **Normal:** Fetal heart rate is 120-160 a minute (30-40 in 15 seconds).

3.3 If you count the rate below 100:

- You may be hearing the woman's pulse from the placenta, which makes a loud swishing sound.
- Check again before you decide that the rate is low:
 - ☐ feel woman's pulse at the same time you listen to fetal heart.
 - ☐ if the woman's pulse that you feel and the heart rate you hear are the same rate, you are listening to the placenta.
 - ☐ if you are listening to the placenta, listen in different spots until you hear the fetal heart. Fetal heart rate should be faster than woman's pulse.

EXAMINING THE ANUS AND RECTUM

General Approach

Reassure patient. Do the following:

- Keep exam private. Have people leave the room if not needed.
 - ☐ if patient is of the opposite sex, you may want to have someone who is the same sex as patient stay in the room to help you.
- Before you begin, talk with patient. Tell him that you will explain the exam as you do it.
- During the exam, keep reassuring patient. Tell patient, "You are doing fine."

Undress: Have patient undress from the waist down.

- Give patient a drape to cover the area when you are not examining.

Position:

- *If patient has abdominal pain*, do the rectal exam with patient lying down on his back, knees bent, and feet pulled up toward his buttocks.
- *If you are also examining woman's genitals*, you can do anus and rectum exam with woman in same position, just after you examine genitals.
- *If young child*, use whatever position is easiest.
- *If older child or adult* does NOT have abdominal pain, have patient lie on his side with top knee bent OR have patient do the following:
 - ☐ stand.
 - ☐ turn around, with back toward you, bend at the waist, and lean on something (exam table).
 - ☐ patient may place hands on buttocks and help to spread buttocks apart so you can see anus.

Wear examination gloves, to protect yourself if examining:

- Anus of older child or adult. Wear two pairs if patient has sores from possible herpes.
- Rectum of patient any age.

As you examine, do the following:

- Be confident but gentle.
- Explain what you are doing.

Wash hands after the exam.

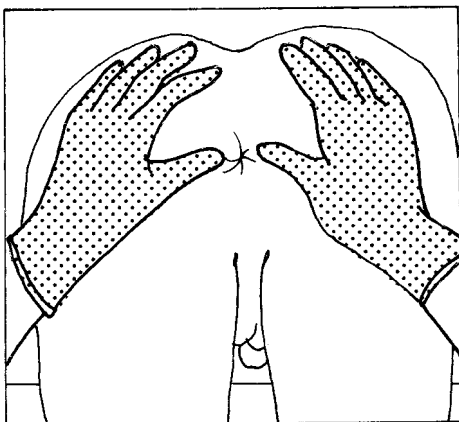
1. Anus

General approach:

- In whatever position you choose, spread patient's buttocks apart to see the area well.
- Have good light. Have a helper hold a flashlight, if needed.

1.1 Appearance. Look carefully:

- Look at area around anus.
- Gently spread/stretch out the skin to look at it all, including just inside the anus.
- If you find a specific skin problem, examine closely (p.129).



Look carefully.

- **Abnormal** includes:
 - ☐ lice (crabs) or nits (tiny eggs) seen on hair.
 - ☐ open sore (small cut/tear/rip, ulcer), rash, warts, enlarged veins (hemorrhoids), other skin problem.

2. Do Rectal Culture for Gonorrhea, If Needed

See p.141.

3. Examine Rectum in Certain Patients

You may need to do this exam in certain patients, including:

- If patient has low abdominal pain and tenderness.
- If patient with constipation has NOT had a bowel movement for several days.
- If doctor asks you to check male for possible severe prostate infection (prostatitis).
- In order to do a more complete exam.

- 3.1** Wear an examination glove. Lubricate one finger with a lot of lubricating jelly (K-Y®, Lubafax®).
- For most patients, use pointer finger.
- If a child, use little finger.

3.2 Tell patient:

- "This exam will make you feel like you will have a bowel movement, but you will NOT."

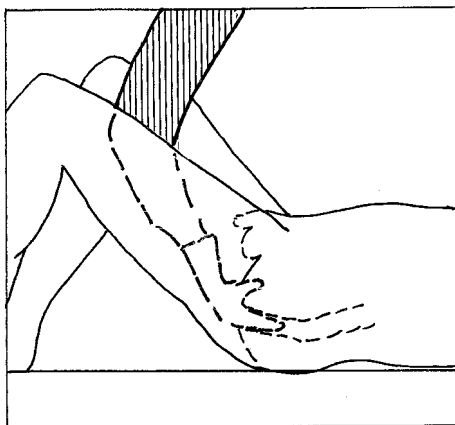
- "You should relax as much as possible."
- "The exam will feel uncomfortable, but you should tell me if it hurts *more* in any one place."

3.3 Gently and slowly, insert your finger through the anus, as far into the rectum as it will go:

- As you first insert your finger, aim it toward the belly button (umbilicus).
- *If this hurts patient*, the following should help him to relax:
 - ☐ tell patient: "Tighten your anus muscle around my finger."
 - ☐ feel the muscle tighten. It should get tired and relax.
 - ☐ next tell patient: "Now relax that same muscle."

3.4 Feel inside the rectum:

- Feel for tenderness.
 - ☐ if patient has abdominal pain, feel the painful area last.
 - ☐ feel in all directions.



Feel for tenderness.

- Feel a male's prostate gland if your referral doctor asks you to:
 - ☐ location: about 2 inches inside adult male's anus, on the anterior (front) part of rectum.
- **Normal:**
 - ☐ rectal exam is uncomfortable, but it should NOT be *more* tender to touch in any one place.
 - ☐ some stool (bowel movement) may be felt.
 - ☐ prostate gland is about 1 inch in diameter; has an indented line in the center; feels the same on both sides; feels smooth and firm, like feeling the tip of your nose; is NOT tender to touch.

- **Abnormal** includes:
 - ☐ rectum is more tender to touch in one place, such as in the appendix area.
 - ☐ prostate is enlarged, tender to touch, or has lump.
- 3.5** Remove your finger. Give patient tissue to wipe with.
- 3.6** Lab test:
 - Check stool that is on your glove for hidden blood (p.84).

EXAMINING THE NERVOUS SYSTEM (Neurological Examination)

Summary EXAMINING THE NERVOUS SYSTEM

1. Mental Status (Mind).
2. Nerves of the Head.
3. Muscle Movement & Strength.
4. Feeling (Sensation).
5. Reflexes.
6. Coordination.

General Approach

Much of this exam can be done while you examine different parts of the body.

1. Mental Status (Mind)

1.1 You know a lot about how the patient's mind is working from talking with him.

- *If abnormal*, do a more complete mental status exam as on p.410.

2. Nerves of the Head

Most nerves of the head (cranial nerves) are tested by checking the following:

2.1 Face muscles:

- Appearance: Does face look the same on both sides?
- Movement: Does face move the same on both sides? Ask patient to:
 - ☐ raise eyebrows.
 - ☐ show you his teeth (big smile).

2.2 Feeling (sensation) on face. Can patient feel the touch of your finger the same on both sides of his face? Check at three levels:

- Forehead.
- Cheek.
- Chin.

2.3 Eyes:

- Vision: Is patient's vision OK? If you are NOT sure, do a Snellen test (p.375).
- Pupil: Shine a flashlight from the side.
 - ☐ **abnormal** includes:
 - pupils larger or smaller than normal.
 - pupils unequal in size.
 - one pupil reacts to light differently.
- Eye muscles: Ask patient to look at your finger as you slowly move it in a large circle.
 - ☐ **abnormal** includes:
 - one eye does not move correctly with other eye (crossed eye).
 - eyes "jerk" to one side (nystagmus).

2.4 Hearing.

- Is hearing OK in *both* ears? If you are NOT sure, check with watch ticking or by whispering (p.381).

2.5 Smell, usually NOT tested unless you think there is a problem.

- Test each nostril.
- Tell patient to pinch one nostril shut and *close both eyes*.
- Have patient smell and tell you what he is smelling. Use something that is common and easy to smell. For example:
 - ☐ rubbing alcohol.
 - ☐ soap.
 - ☐ tobacco.

2.6 Mouth and throat:

- Tongue: Tell patient to stick his tongue out straight.
 - ☐ **abnormal**: Tongue leans to one side.
- Uvula (in back of mouth).
 - ☐ ask patient to say "Ah."
 - ☐ **normal**: Uvula hangs in the middle and moves straight up when saying "Ah."
 - ☐ **abnormal**: Uvula moves to one side (moves more on one side than on the other).
- Gag: Touch back of throat with your tongue blade.
 - ☐ **normal**: Patient gags.

3. Muscle Movement & Strength

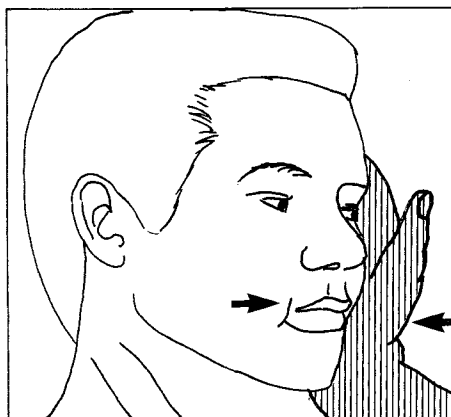
General approach:

- Muscles should look about the same on both sides of body. *If they look different*, as you check movement and strength, feel the muscles to see if you *feel* a difference, too.
- Check both sides of the body at the same time, to see if muscle movement and strength is the same:
 - ☐ tell patient to push or pull against you as you check the muscles.
 - ☐ push or pull against patient as hard as needed, to test strength.
 - ☐ **abnormal** includes muscle weakness on one side.

Check the following:

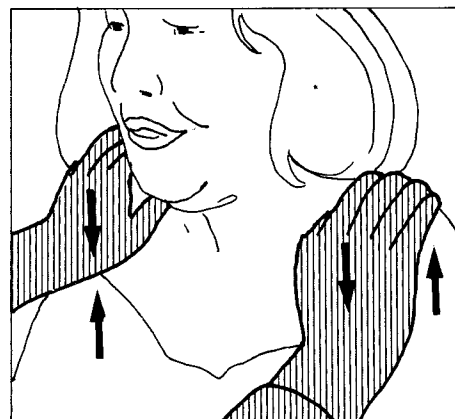
3.1 Head (turning):

- Tell patient: "Turn your head to push my hand away."



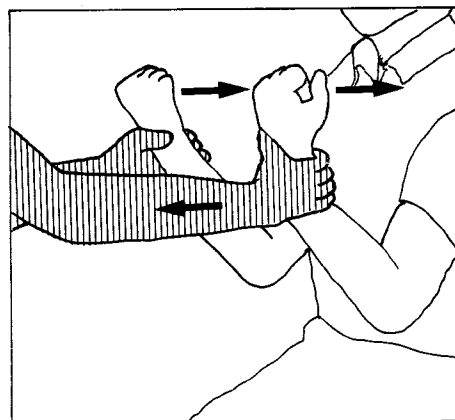
3.2 Shoulders (shrug):

- Tell patient: "Shrug your shoulders. Push up against my hands."

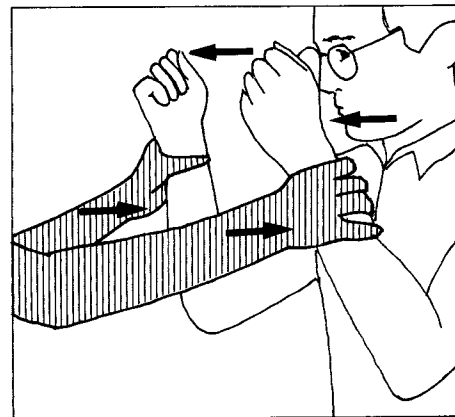


3.3 Arms (elbow movement):

- Tell patient: "Pull back."

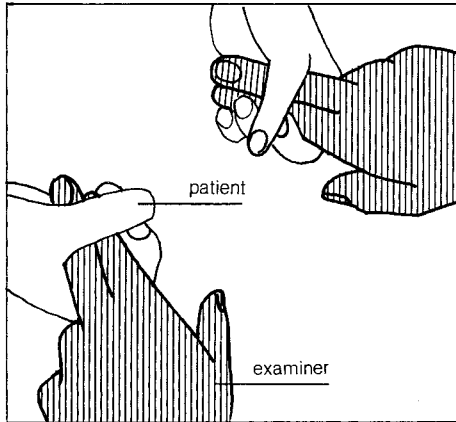


- Tell patient: "Push me away."



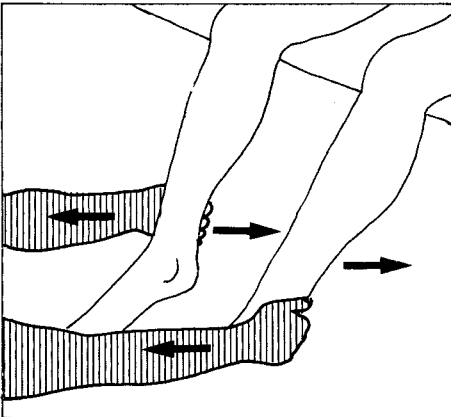
3.4 Hands (grasp):

- Let patient grasp two fingers only, so you do not get hurt. Tell patient: "Squeeze my fingers. Do not let me pull them out."

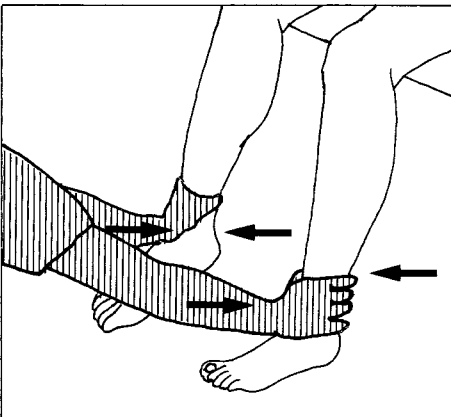


3.5 Legs (knee movement):

- Tell patient: "Pull back. Keep your knee bent as I try to straighten your leg."

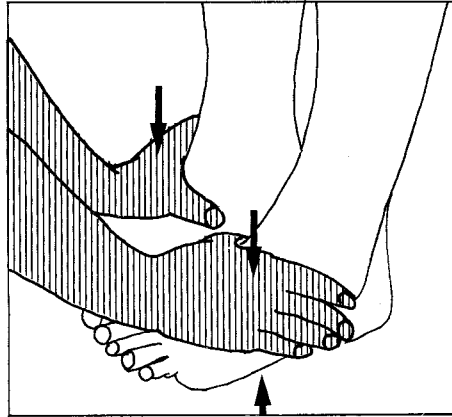


- Tell patient: "Push me away. Try to straighten your leg."

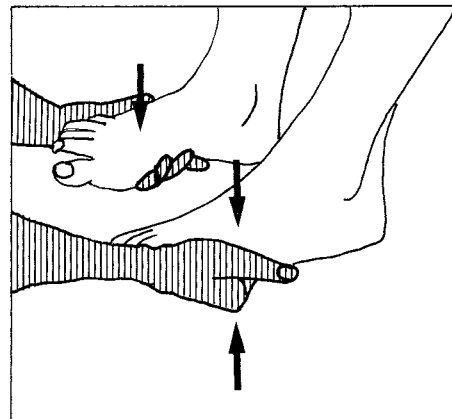


3.6 Feet (ankle movement):

- Tell patient: "Pull up with your foot."



- Tell patient: "Push down with your foot."



3.7 Other muscles:

- Check others if needed, depending on patient's problem. Example: If patient injured left lower arm, check movement and strength of muscles around and beyond that area: wrist, fingers.

4. Feeling (Sensation)

General approach:

- First, check with light touch:
 - ☐ tell patient to close his eyes.
 - ☐ touch a spot lightly, with your finger.
 - ☐ ask patient to point to the spot where you touched him.
 - ☐ touch two spots at once: the same spot on each side of the body.

- ☐ ask patient, "Does it feel the same or different?"
- ☐ **normal:** Patient feels light touch the same on both sides of the body.
- ☐ **abnormal:** change in feeling or loss of feeling.
- If feeling with light touch is abnormal, check with safety pin:
 - ☐ show patient on your own skin that you will poke him with the sharp or the dull end. He should tell you which end it is.
 - ☐ tell patient to look away or close his eyes.
 - ☐ ask patient to tell you if it is "sharp or dull" as you poke him.
 - ☐ recheck several times.
 - ☐ **normal:** Patient feels the pin and knows if it is sharp or dull.
- If any feeling is abnormal, do the following:
 - ☐ ask patient, "In what way is it different?" Examples:
 - patient can feel it, but it feels a little numb.
 - patient can NOT feel it at all.
 - ☐ examine that area closely. Find out where numbness starts and normal feeling stops.
 - ☐ draw a picture to show where the feeling is abnormal.

Check the following areas:

- 4.1 Arms.
- 4.2 Hands.
- 4.3 Body.
- 4.4 Legs.
- 4.5 Feet.
- 4.6 Other areas, if problems.

5. Reflexes

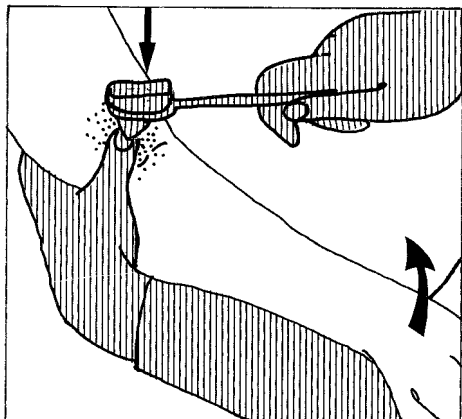
Checking reflexes lets us know if spinal cord and nerves for feeling and movement are working OK.

- **Normal:**
 - ☐ mild response.
 - ☐ same on both sides of body.
- **Abnormal** includes:
 - ☐ stronger or weaker than normal.
 - ☐ different on one side of body.

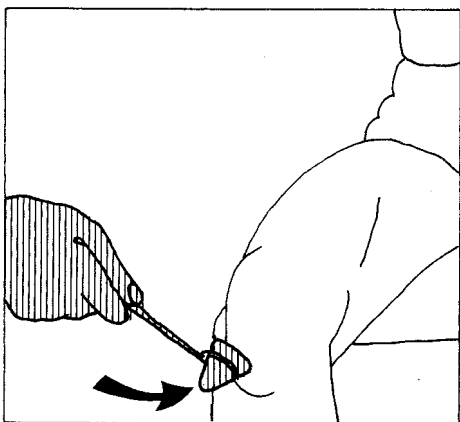
5.1 Tendon reflexes. Tell patient to relax the part of the body you are

testing. Check the following on both sides of body:

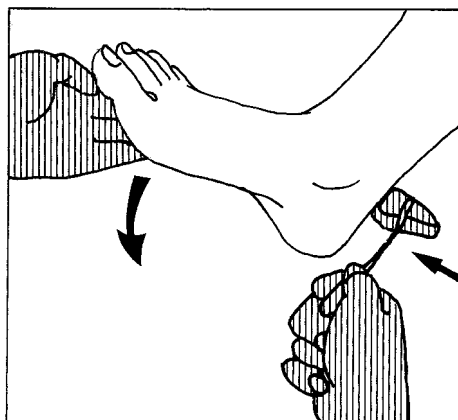
- Biceps tendon, in front of elbow:
 - ☐ place your thumb on top of the bend in patient's arm, just on top of the tendon that bends arm.
 - ☐ hit your thumb with pointed end of hammer.
 - ☐ **normal:** You feel a jerk from patient's arm.



- Knee jerk: Hit tendon just below kneecap with flat end of hammer.
 - ☐ **normal:** muscles (front of thigh) contract and lower leg jerks forward.

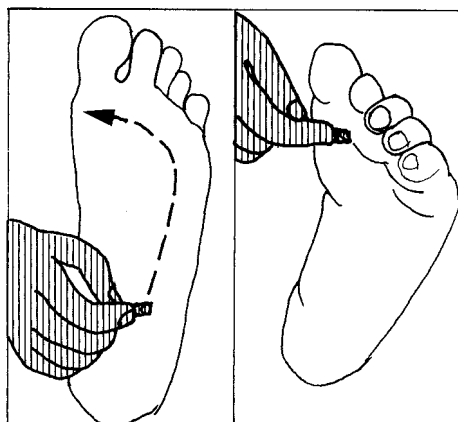


- Ankle (heel):
 - ☐ push foot up with your fingers under patient's toes.
 - ☐ hit achilles tendon (back of ankle) with flat end of hammer.
 - ☐ **normal:** Foot jerks down.

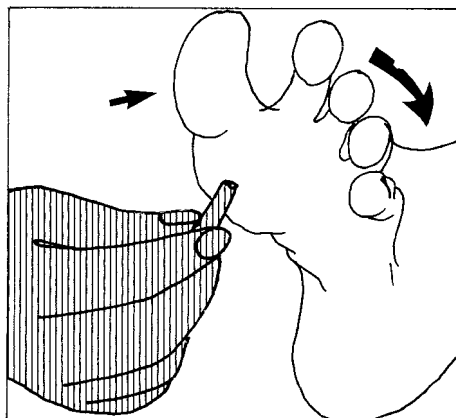


5.2 Bottom of foot (Babinski reflex). You may be asked to check this reflex in certain patients.

- Run something hard along bottom of patient's foot, from heel toward toes.
- **Normal:** All toes move down, if patient is older than 6-8 months.
- **Abnormal:** Big toe moves up or other toes spread apart.



Normal.



Abnormal

5.3 Other reflexes. You may be asked to check other reflexes, depending on patient's problem.

6. Coordination

You have observed patient's coordination (muscles working together) during the exam. Test coordination in these additional ways:

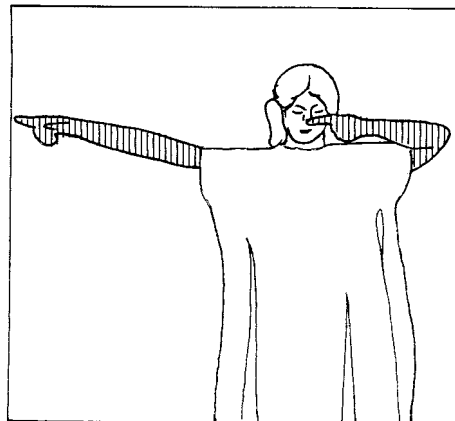
6.1 Walking: Have patient walk around the room.

- **Normal:** Patient has good balance; arms swing at sides; feet are fairly close together; head turns before the rest of body turns.

6.2 Balance: Can patient stand on one foot and keep his balance? Be ready to catch him!

6.3 Finger to nose test:

- Tell patient to:
 - ☐ hold his arms out at his sides.
 - ☐ touch the tip of his nose with the tip of each pointer finger, one at a time:
 - first with his eyes open.
 - then with the eyes closed, as in next drawing.



- **Normal:** Patient is able to do this well and quickly.
- **Abnormal** includes:
 - ☐ patient is slow to do this.
 - ☐ patient has shaking fingers or other trouble doing this.

MENTAL STATUS EXAM

A mental status exam is an exam of how the mind is working.

Begin here (do a mental status exam):

- If you think a patient is not normal mentally.
 - ☐ maybe patient seems confused.
- If you think a patient is doing strange things.
 - ☐ maybe you think patient is psychotic ("crazy").

This examination helps us to:

- Make assessments of mental illness.
- Decide if there is a physical cause for some mental health problems, which may need to be treated quickly.
- Decide if a mentally ill patient is responding well to treatment.

Summary MENTAL STATUS EXAM

1. General Appearance and Behavior.
 2. Speech.
 3. Mood (Emotion, Feeling, Affect).
 4. Thinking.
 5. Orientation.
 6. Memory:
 - Long-term.
 - Recent.
 - Short-term.
 7. Judgment.
 8. Intelligence.
 9. Insight.
-

General Approach: First, Talk with Patient

You will get most of the "Objective" mental status exam information just by talking with patient.

- Ask something like, "How do you feel?"
- Chat with patient before you ask specific mental status exam questions.

As you talk with patient, observe. If patient is confused or if patient says or does something strange:

- Remember it.
- Write it down.

If you are not sure whether you should write something down under "S" or "O," write it down and do not worry where it belongs!

Just before you begin to ask specific mental status exam questions, explain to patient what you are going to do.

- Say something like: "Now I am going to ask you some questions that may seem sort of strange. It is important that I ask you, though, in order for me to do a complete exam."

You must ask some specific questions, as written in the steps that follow.

1. General Appearance and Behavior

1.1 Describe patient's general appearance and behavior.

- If you know the patient, has his appearance or behavior changed?

1.2 If not normal, what is different? For example:

- Sleepy.
- Nervous.
 - ☐ pacing the floor.
- Angry.
- Blank look on face.
- Not dressed correctly.
- Wearing too much make up.
- Doing something strange.

2. Speech

2.1 Is patient's speech normal?

2.2 If not normal, how is it different? For example:

- Slurred; hard to understand.
- Fast.
- Slow.
- Loud.
- Soft.
- Talks in rhymes.
- Jumps from one idea to another.
- Does not make sense. If so, write down an example.

3. Mood (Emotion, Feeling, Affect)

3.1 Is patient's mood normal?

- If you are not sure if his mood is normal, *ask patient*: "Tell me about something in your life that made you very happy (or very sad)."

3.2 If not normal, how is patient's mood different? For example:

- Sad, tearful, depressed.
- Too happy, more than expected.
- Flat: He does not seem to have any feeling or emotion.
- Not appropriate: Patient's feelings do not match up with the situation.
- Quick to change (labile): He may go from smiling to quickly getting angry.

4. Thinking

4.1 Ask patient: "Do you see or hear things that other people say they can not?"

- If patient says yes, find out more. For example, if patient hears a voice, ask him:
 - ☐ "Is the voice inside or outside of your head?"
 - ☐ "Whose voice is it?" (man or woman's voice)?
 - ☐ "What does the voice say?"
 - ☐ "Do you enjoy the voice?"
 - ☐ "Is the voice telling you to harm yourself?"

4.2 Does patient's thinking seem normal?

4.3 If not normal, how is his thinking different? For example, if patient:

- Seems to think too much about one thought or idea.
- Has strange ideas that do not agree with what is real.

5. Orientation

5.1 *Ask patient*:

- "What is your name?"
- "Where are you now?"
- "What is the date?"
 - ☐ if patient does not know the date, ask:
 - "What day of the week is it?"
 - "What month is it?"
 - "What season is it?"
 - "What year is it?"

5.2 If normal (oriented), write down one of the following:

- "Orientation: OK."
- "Oriented to person, place, and time."
- "Oriented x 3."

5.3 If not normal (not oriented, disoriented), write down what is abnormal.

6. Memory

6.1 Long Term Memory:

- *Ask patient* to tell you about something that happened years before.
 - ☐ for example: "Was Alaska a state when you were a child? Do you remember when it became a state?"
 - ☐ if you are not sure that patient is correct, ask someone who knows.
- Was patient correct?

6.2 Recent Memory:

- *Ask patient* to tell you about something that happened earlier in the day, or recently:
 - ☐ perhaps what he had to eat today or yesterday, a holiday, a funeral, a party.
- Was patient correct?

6.3 Short-term Memory:

- *Say to patient:* "I am going to tell you three numbers (or colors). I want you to remember them. I will ask you what they are again in a few minutes."
- Next, say three numbers. For example: 1,8,5.
- Have patient repeat the numbers back to you right away, in the same order.
- Remind patient that you are going to ask for those numbers in a few minutes.
- Keep on talking with patient. In about 2-3 minutes, ask patient what the numbers are.
- If patient forgot the numbers or their order, try this test again, with different numbers.
- Does patient remember numbers correctly?

7. Judgment

7.1 *Ask patient* a question that will make him decide "What would you do if..." Examples:

- "What would you do if you saw a fire burning in the corner of this room and no one else saw it?"
- "What would you do if you found an envelope that has a stamp and an address on it, lying in the street?"

7.2 Does patient:

- Show good judgment?
- Decide what to do in a normal amount of time?

8. Intelligence

8.1 Does patient know the things you expect him to know?

8.2 Does patient answer these next questions correctly? *Ask patient:*

- "What is the name of the President?"
- "What is the state capital?"
- "List *backwards* the months of the year." (or the days of the week).

9. Insight

9.1 *Ask patient:* "What problems are you having? What do *you* feel is wrong?"

9.2 Does the patient have:

- Good insight (mentally ill patient thinks something is wrong with his mind; may have a good understanding of his problem).
- Poor insight (mentally ill patient thinks he is OK).

EXAMINING THE SKIN

Summary EXAMINING THE SKIN

1. Screening Exam:

- Appearance.
- Feel the skin.

2. Exam If Skin Problem:

- Appearance of skin problem:
 - ☐ location.
 - ☐ number of lesions.
 - ☐ size and shape.
 - ☐ is it raised/flat/depressed?
 - ☐ color.
 - ☐ moisture.
 - ☐ other appearance.
- Feel the skin problem:
 - ☐ is it tender to touch?
 - ☐ what does it feel like?
- Other exam, if needed.
- Feel for lymph nodes in the area.

3. Checking for Severe Dehydration.

1. Screening Exam

Skin is looked at and felt as you examine different parts of the body.

- This exam is usually NOT done as a separate step.
- Patient does not have to be completely undressed at any one time.
- Examining the skin includes examining hair and nails.

1.1 Appearance: Look at the skin. Note things such as:

- Color of skin:
 - ☐ **abnormal** includes: pale; yellow; blue color of nails (cyanosis).
- Moisture of skin.
 - ☐ **abnormal** includes: too wet, oily, or dry.
- Other appearance:
 - ☐ **abnormal** includes: dirty skin; swelling.

1.2 Feel the skin.

- **Abnormal** includes:
 - ☐ temperature: warmer or cooler than normal.
 - ☐ smoother or rougher than normal.
 - ☐ thinner or thicker than normal.

2. Exam If Skin Problem

If you find a specific skin problem (lesion), such as a rash or sore, examine closely. Your exam should include the following that applies.

General Approach

It is important to:

- Have good light.
 - ☐ daylight is best.
 - ☐ it may help to use a flashlight in certain areas.
- Check enough of the skin:
 - ☐ check all of the problem area.
 - ☐ compare the problem area to normal skin.
- Examine in a certain order, so you remember to check everything.

There are many kinds of skin problems. *If you do NOT know the assessment*, you must report *exactly* what you see and feel.

- Describe the problem to yourself as you examine the patient. This will help you to describe it correctly when you report.
- *If there is more than one* skin lesion, as with a rash or sores, decide: Are they all the same? If NOT, describe:
 - ☐ the overall skin problem.
 - ☐ a typical skin lesion.
 - ☐ in what way other skin lesions are different.

2.1 Appearance of Skin Problem

Look carefully. This is the most important part of examining the skin. It will often help to use a magnifying glass.

[1] Location. Where exactly is the problem? For example, is it:

- All over the body?
- On one part of the body, such as an arm or leg?
- On parts of the body that are exposed to light (not covered by clothing) such as face, neck, hands?
- It may help to make a drawing (as on p.317).

[2] Number of lesions: One, a few, many?

- *If more than one*, how are they arranged? For example, are they:
 - ☐ scattered all over?
 - ☐ grouped together in a patch?
 - ☐ grouped together in a line?

[3] Size and shape:

- Size. For reporting:
 - ☐ compare it to something common. For example: size of a quarter, dime, head of a pin, *pinpoint*.
 - ☐ or, measure in mm. or cm.
- Shape. For example: round, irregular, "runs together" with others.

[4] Is it raised, flat, or depressed?

- It may help to gently run your finger over the problem area while you look at the skin from the side.
- **Normal:** Skin is flat.
- **Abnormal** includes if skin area is:
 - ☐ raised.
 - ☐ depressed. For example:
 - scar.
 - ulcer, an open sore that looks like a piece of skin tissue is missing.

[5] Color. If NOT normal:

- What color?
- Where is the color abnormal?
 - ☐ over a large area, as with pale skin?
 - ☐ mainly where there is a problem, as with a rash?

[6] Moisture: Is it normal, wet, or dry?

- Look carefully. It may be filled with fluid. For example, you may see fluid inside a tiny blister (vesicle).
 - ☐ if so, what does the fluid look like (clear; cloudy, like pus)?
- *If drainage or pus*, examine:
 - ☐ how much is there?
 - ☐ what does it look like (color, clear or cloudy, thick or thin)?
 - ☐ what does it smell like?

[7] Other appearance may include things such as cracks in the skin, bleeding, scabs, thick crusts, flaky scales, scratch marks.

2.2 Feel the Skin Problem

[1] Is it tender to touch? If so, check for other signs of inflammation: Is it warm, red, swollen?

[2] What does it feel like? For example, is it soft, firm, hard, pulsating?

2.3 Other Exam, if Needed

[1] *If a lump*, is it movable or attached to something:

- Try to pick up or move skin over the lump.
 - ☐ movable = skin moves over the lump.
 - ☐ attached to skin = lump moves with the skin.
- Try to move/slide lump over tissue that is underneath.
 - ☐ movable = lump slides over tissue that is underneath.
 - ☐ attached to something = lump does NOT slide over tissue that is underneath. It feels like lump is attached.

[2] *If swollen area*, check for pitting edema:

- Press thumb firmly into skin for 1-2 seconds.
- Remove thumb.
- **Normal:** Skin springs back into shape.
- **Abnormal:** Thumb leaves a dent in the skin (pitting edema). This means there is too much fluid in the skin.

2.4 Feel for Enlarged Lymph Nodes in the Area (p.385)

If felt, note location, size, tenderness, and if movable.

3. Checking for Severe Dehydration

If child or young adult, check for severe dehydration if needed. For example, do this if patient has been losing fluid or has not been eating.

3.1 Gently pinch a fold of skin.

- Note the "tent" or creases that form.

3.2 Quickly release the skin.

3.3 Normal: Skin springs back into shape (good skin turgor).

3.4 Abnormal: In dehydration (as in old age), creases do NOT go away immediately after pinching. Skin stays "tenting up" for a while.

MEDICINES: GENERAL INFORMATION

CONTROL OF MEDICINES

Storing

Keep your medicines in locked cabinets so that they can not be stolen or taken by mistake.

- Many medicines are dangerous if not used the right way.
- Only the CHA/Ps should have the key to the drug cabinet.

Protect medicines from freezing and from excess heat or light.

- Refrigerate, if needed.
- Keep drug cabinet door closed when not in use.

Organize medicines in your drug cabinet according to guidelines in your region.

- It may be helpful for you to keep medicines in the same order as on your pharmacy's drug order form.
- Label the front of each shelf with the name of the medicine that is kept there.
- When you receive a new supply, rotate the containers so that you use medicines that will expire first.

Using Non-prescription Drugs

In general, you should report to your referral doctor for advice when giving these drugs unless he has signed for you to treat patients with non-prescription drugs without contacting him.

Using Prescription Drugs

A prescription drug has a label that says:

"Caution: Federal Law Prohibits Dispensing Without Prescription"

In order to give a prescription drug to a patient, it *must* be ordered:

- By your referral doctor or dentist:
 - ☐ in person, by phone, radio, or letter, or
 - ☐ through standing orders, if your referral doctor signs for you to treat a problem without contacting him
- Or by this manual, if you can not reach the doctor

Using Controlled Drugs

Examples:

- ACETAMINOPHEN with CODEINE (Tylenol® with Codeine).
- ASPIRIN with CODEINE (Empirin with Codeine, Ascodeen®).
- CHLORDIAZEPOXIDE (Librium®).
- CODEINE.
- DIAZEPAM (Valium®).
- MEPERIDINE (Demerol®).
- MORPHINE.

These pain medicines and sedatives are prescription drugs that are often abused. They are called "controlled drugs", because:

- Their use is controlled by law.
- You *must* keep special records when you receive and use these drugs.
- You must have a doctor's order every time you use one of these drugs.

Your pharmacist will send you forms to sign for each controlled drug.

- When you receive the drug:
 - ☐ count. Be sure the amount listed is correct.
 - ☐ sign and return the *packing list*. This shows that you received the drug.
 - ☐ fill in the *sign-out sheet*.
- Every time you use a controlled drug, complete the sign-out sheet. Your sign-out sheet must show:
 - ☐ drug (name of the drug).

- ☐ strength (mg. in each pill, Tubex® syringe, other).
- ☐ where you got the drug from (Service Unit Pharmacy).
- ☐ date you received the drug.
- ☐ amount received (how much of the drug you received).
- ☐ the following information for every time you gave a patient the drug:
 - date.
 - dose ordered and given.
 - patient's name.
 - ordered by (doctor's name).
 - given by (your signature).
 - amount used (total given to each patient).
 - inventory balance (amount left after each patient).
- In order to get a refill for a controlled drug, you must send the sign-out sheet back to your referral pharmacy.

GIVING MEDICINE TO A PATIENT

1. Getting Started

Give medicine with care. Use the following plan for every medicine that you give:

1.1 The medicine and dose should be ordered by the doctor or by this manual.

- Do NOT suggest medicines unless you think they are really needed.

1.2 Ask patient if he is allergic to the medicine.

- If patient is allergic to the only medicines listed, consult your referral doctor.

1.3 Use a drug reference, such as the Village Drug Reference.

- Review your drug reference unless you know well the information there.
- If patient is taking other medicine at the same time, there may be a problem (drug interaction). If you are not sure, ask your referral doctor.

1.4 Check the medicine for:

- Name and strength.
- Expiration date.

1.5 Decide the amount of medicine to give (information is found in this section).

1.6 Wash your hands before preparing a medicine.

2. Dispensing and Labeling Medicines for Home Use

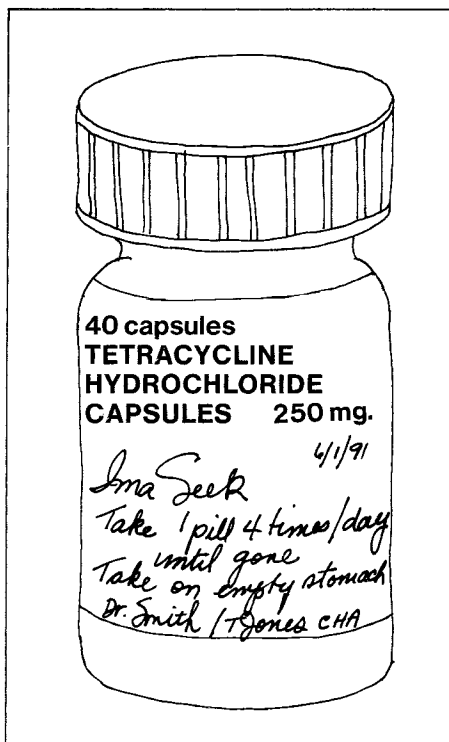
2.1 Plan to give patient the whole container of medicine, even if that is a little more than he needs.

- Usually one bottle will have enough medicine to treat an illness.
- If more than one bottle is needed, give patient the second bottle when he returns for a recheck.
- If less than one bottle is needed, you may decide to tell patient to throw away the rest of the medicine when he is finished.
- Warning: Only give out a small amount if there is a chance that patient may take an overdose (for example, if patient has depression or other mental health problems).

2.2 Attach a small label to the back of the bottle, or box if there is no bottle.

- Use:
 - ☐ a label from your pharmacy, or
 - ☐ adhesive tape.
- Place the label so that it does not cover the part of the original label that gives directions on how to use the medicine.
- Write the following information on the label:
 - ☐ patient's name.
 - ☐ date given.
 - ☐ your name.
 - ☐ doctor's name (who prescribed the medicine).
- Add the following information, if it is not already printed on the original label:
 - ☐ amount to take.
 - ☐ how often to take it.
 - ☐ how long to take it for.
 - ☐ special instructions or warnings.
 - ☐ name of medicine.
 - ☐ strength (for example: 250 mg.).
 - ☐ total number of pills or capsules in the bottle.

2.3 If very sick patient vomits all medicine by mouth, consider giving a similar medicine by injection, if available.



Add in information not on the label

3. Patient Education

People make mistakes when they take medicine if they do not know enough about the medicine.

3.1 Carefully explain to patient how to use every medicine that you give. Tell patient:

- What the medicine does.
- How to use, take, or apply the medicine.
- Amount (how much) of the medicine to take.
- When (how often) to take it.
- How long to take it for.

3.2 If you are giving liquid medicine:

- Tell patient do NOT use a regular teaspoon for taking liquid medicine.
 - ☐ a kitchen measuring spoon is too small.
 - ☐ other kitchen teaspoons have many styles and may be the wrong size.
- Give patient one of the following:
 - ☐ a special container from the pharmacy that has teaspoons or ml. marked.
 - ☐ or, a clean syringe.

- Have patient show you that he can pour out the right amount of medicine.

3.3 Other patient education:

- Read your drug reference if you are not familiar with the drug.
- Tell patient about common side effects.
- Explain any warnings or other information, such as:
 - ☐ "shake well before using."
 - ☐ "avoid alcohol while taking this drug."
 - ☐ "store in a cold place, but do not freeze."
 - ☐ anything else the patient needs to know so that he can use the drug safely and correctly.
- Ask patient to repeat instructions back to you.
- Advise patient to contact you if he feels that the drug is causing him a problem or does not seem to be working.

4. If the Medicine Causes a Problem

4.1 If severe allergic reaction, with shortness of breath, wheezing, severe swelling, or shock, give emergency care. Now go to p.8.

4.2 If milder allergic reaction, with rash or hives, now go to p.318.

4.3 For other problems, while you are waiting to report to your referral doctor, do the following:

- Reassure patient.
- Stop the medicine, if possible.
- Treat side effects as recommended in a drug reference.
- If severe problems, treat the same as for "Other Drug Abuse Problems," p.266.

DECIDING THE AMOUNT OF MEDICINE TO GIVE

Begin here to help you figure out the exact amount of medicine to give for each dose.

1. Understand How the Medicine Is Measured

Most of the time we use the metric system.

1.1 Solid medicine is measured by Weight. Instead of ounces or pounds, we use:

- milligrams (mg.). Most medicines are weighed in milligrams.
 - for example, a 250 mg. PENICILLIN tablet.
- Grams (Gm., G., g.).
 - for example: 0.5 Gm. of SULFISOXAZOLE (Gantrisin®) suspension.
- Grains (gr.). This is an old-fashioned measurement of weight. Try not to use it.
 - examples where you may see grains used:
 - 5 grains of ASPIRIN.
 - 1 grain of PHENOBARBITAL.

Warning: Grams (Gm.) and grains (gr.) are different. Be careful. Do not use one when you mean the other.

- Gm. = gram.
- gr. = grain.

1.2 Liquid medicine is measured by volume. Instead of using teaspoons, ounces, pints, or quarts we use the metric system:

- milliliters (ml.) or cubic centimeters (cc.).
 - 1 ml. = 1 cc.
 - for example: 5 ml. of AMOXICILLIN suspension.
- liters (L.):
 - for example: 1 liter of 0.9% SODIUM CHLORIDE (Normal Saline).

Warning: milligrams (mg.) and milliliters (ml.) are very different. Be careful. Do not use one when you mean the other.

- milligrams (mg.) is the weight of a drug in a medicine.
- milliliters (ml.) is the space (volume) a liquid takes up.

1.3 Strength of liquid medicine is usually measured in:

- mg./ml.
 - the number of milligrams (mg.) of the medicine in each ml.

- example: MEPERIDINE injection (Demerol®) has 50 mg./ml.
- mg./5 ml.
 - the number of mg. of the medicine in each 5 ml.
 - examples:
 - AMOXICILLIN suspension may have 250 mg./5 ml.
 - DIPHENHYDRAMINE elixir (Benadryl®) has 12.5 mg./5 ml.

1.4 Some medicines are measured by unit. A "unit" is a measurement of activity. A few medicines are measured in units. For example:

- PENICILLIN.
- NYSTATIN.
- INSULIN.

2. Be Able to Convert Measurements if Needed

2.1 In order to figure out amount of medicine to give, you may have to change from one kind of measurement to another.

- Use chart 2.1, if needed.

3. Decide the Amount of Medicine to Give.

3.1 The medicine and dose should be ordered by the doctor or by this manual.

3.2 If you are not sure of the amount to give, and you can NOT reach a doctor, do the following:

- Ask someone who is good with numbers to help you decide.
- Keep the following in mind:
 - with most medicines, a patient takes:
 - 1 tablet.
 - or, 5 ml. (1 teaspoon).
 - sometimes patient must take a different amount. *Usually* the different amount will be:
 - ½ of the above amount.
 - or, two times the above amount.
- Use chart 3.2 A, "Figuring Out the Amount of Medicine to Give."
- Use chart 3.2 B, "Amount of Medicine to Give: Some Common Problems."

Chart 2.1

CONVERSION TABLE

WEIGHT OF DRUG:

Changing mg. to Gm. or Gm. to mg.:

*1000 mg. = 1.0 Gm.

*500 mg. = 0.5 Gm. (½ Gm.)

*250 mg. = 0.250 Gm. (¼ Gm.)

Make changes by moving the decimal point 3 places.

Changing mg. to grains:

65 mg. = 1 grain

80 mg. = 1¼ grains

325 mg. = 5 grains

650 mg. = 10 grains

LIQUID MEASUREMENT (Volume) OF DRUG:

*1 ml. = 1 cc.

*1000 ml. = 1 liter

1 liter = about 1 quart

2½ ml. = ½ teaspoon (tsp.)

*5 ml. = 1 teaspoon (tsp.)

*15 ml. = 3 teaspoons (tsp.)

*15 ml. = 1 Tablespoon (Tbs.)

30 ml. = 1 fluid ounce

60 ml. = 2 fluid ounces

WEIGHT OF PATIENT:

Changing Gm. to kg. or kg. to Gm.

454 Gm. = .454 kg. (kilogram)

1000 Gm. = 1.0 kg.

3500 Gm. = 3.5 kg. (3½ kg.)

Make changes by moving the decimal point 3 places.

Changing kilograms to pounds:

1 kg. (kilogram) = 2.2 lbs. (pounds)

0.454 kg. = 1 lb.

*Memorize these.

Chart 3.2 A

FIGURING OUT THE AMOUNT OF MEDICINE TO GIVE

1. Write down the dose you want to give patient. For example: 500 mg.
2. Write down the strength of the medicine you have. For example: 250 mg. tablets.
3. Make sure that the dose you want is measured in the same way as what you have. *If they are NOT measured in the same way:*
 - If one is in mg., change the other to mg. (Chart 2.1).
 - If neither is in mg., change what you *want* so it is in the same units as what you have (Chart 2.1).
4. Make a **What you want** fraction: **What you have**
5. Divide what you want by what you have.
6. The answer is the amount of medicine you should give.
 - With oral drugs the number is how many tablets, ml., or teaspoons.
 - With injectable drugs, the number is how many ml. or how much of a Tubex®.
7. Check your work to see that the answer you got in #6 is equal to "what you want."

Example: This manual may tell you to give patient 500 mg. of ERYTHROMYCIN 4 times a day. You have 250 mg. ERYTHROMYCIN tablets.

1. The dose you want is 500 mg.
2. You have 250 mg. tablets. You will need more than 1 tablet.
3. What you want and what you have are both in mg.
4. $\frac{\text{What you want}}{\text{What you have}} = \frac{500 \text{ mg.}}{250 \text{ mg. tabs}}$
5. Divide: $\frac{500 \text{ mg.}}{250 \text{ mg. caps}} = 2 \text{ tabs}$
6. Patient should take 2 tablets.
7. Check your work:
 $2 \text{ tabs} \times 250 \text{ mg. each} = 500 \text{ mg.}$

Example: This manual may tell you to give patient 125 mg. of AMOXICILLIN suspension 3 times a day. You have a liquid that contains 250 mg./5 ml (or 250 mg./teaspoon).

1. The dose you want is 125 mg.
2. You have 250 mg./teaspoon. You will need less than 1 teaspoon.
3. What you want and what you have are both in mg.
4. $\frac{\text{What you want}}{\text{What you have}} = \frac{125 \text{ mg.}}{250 \text{ mg./tsp.}}$
5. Divide: $\frac{125 \text{ mg.}}{250 \text{ mg./tsp.}} = \frac{1}{2} \text{ tsp.}$
6. The patient should take $\frac{1}{2}$ teaspoon, or $2\frac{1}{2}$ ml.
7. Check your work:
 $\frac{1}{2} \text{ tsp.} \times 250 \text{ mg./tsp} = 125 \text{ mg.}$

Example: The doctor tells you to give a child 250 mg. of SULFISOXAZOLE (Gantrisin®) liquid two times a day. Your Gantrisin® suspension says: "5 ml. provides the equivalent of approximately 0.5 gm. SULFISOXAZOLE."

1. The dose you want is 250 mg.
2. You have 0.5 Gm./5 ml., or 0.5 Gm./teaspoon.
3. What you want is in mg., but what you have is in Gm.
 - Using chart 2.1: What you have is 0.5 Gm. = 500 mg.
4. $\frac{\text{What you want}}{\text{What you have}} = \frac{250 \text{ mg.}}{500 \text{ mg./tsp.}}$
5. Divide: $\frac{250 \text{ mg.}}{500 \text{ mg./tsp.}} = \frac{1}{2} \text{ tsp.}$
6. The patient should take $\frac{1}{2}$ teaspoon, or $2\frac{1}{2}$ ml.
7. Check your work:
 $\frac{1}{2} \text{ tsp.} \times 500 \text{ mg./tsp} = 250 \text{ mg.}$

DOSES OF ACETAMINOPHEN, ASPIRIN, AND OTHER PAIN MEDICINES

As with all medicines:

- Consult your drug reference.
- Read instructions on the bottle. Different brands may have different doses.

For fever, or for mild to moderate pain, give one of the following:

- ACETAMINOPHEN (Tylenol®, Tempra®, other brands).
 - ☐ for dose, see chart A.
- ASPIRIN (ASA, acetylsalicylic acid).
 - ☐ do NOT give to child with chickenpox, flu, or respiratory infection. ASPIRIN may cause a serious problem in a child with certain virus infections.
 - ☐ do NOT give if nervous system exam is abnormal, unless the doctor says it is OK.
 - ☐ for dose, see chart A.

For moderate to severe pain, try ACETAMINOPHEN or ASPIRIN first. If the pain is NOT better and you can NOT reach a doctor:

Give **ACETAMINOPHEN** or **ASPIRIN with CODEINE** (CODEINE 30 mg.).

- **Give every 4 hours, if needed:**

Weight	Approximate Age	Dose of Codeine
Less than 50 lbs.	Less than 7 yrs.	Consult doctor.
50-69 lbs.	7-9 yrs.	15 mg. (½ tablet)
70-99 lbs.	10-12 yrs.	30 mg. (1 tablet)
100 lbs. or more	13 yrs. or more	30-60 mg. (1-2 tablets)

Chart A

Acetaminophen and Aspirin

Weight	Approximate Age	Acetaminophen Drops (100 mg./ml.) Dose	Chewable Tablets of Either Medicine Dose	300-325 mg Tablets Dose
10-14 lbs.	1-3 mo.	40 mg. (0.4 ml.)		
15-21 lbs.	4-11 mo.	80 mg. (0.8 ml.)	80 mg. (1 tablet)	
22-27 lbs.	1 yr.	120 mg. (1.2 ml.)	120 mg. (1½ tablets)	
28-34 lbs.	2-3 yrs.	160 mg. (1.6 ml.)	160 mg. (2 tablets)	
35-44 lbs.	4-5 yrs.	200 mg. (2.0 ml.)	200 mg. (2½ tablets)	
45-54 lbs.	6-7 yrs.	240 mg. (2.4 ml.)	240 mg. (3 tablets)	
55-89 lbs.	8-11 yrs.			325 mg. (1 tablet)
90 lbs or more	12 yrs. or more			325-650 mg. (1-2 tablets)

For severe pain, if you can NOT reach a doctor, give an I.M. shot of pain medicine if the following is true:

- Pain is NOT relieved by ACETAMINOPHEN with CODEINE, OR patient should not take anything by mouth (for example, with severe abdominal pain).
- I.M. pain medicine is ordered by this manual.
- You can not transport the patient soon.

Give I.M. shot of **MEPERIDINE** (Demerol®; 50 mg./ml.)
OR **MORPHINE** (10 mg./ml.).

- Do NOT give to:
 - ☐ patient who has shock (weak, fast pulse; low BP), head injury, or shortness of breath.
 - ☐ patient who is drunk.
 - ☐ child under age 12, unless NALOXONE (Narcan®) is available to use if breathing slows or stops.

• **Give every 4 hours, if needed:**

Weight	Approximate Age	MEPERIDINE Dose	MORPHINE Dose
Less than 35 lbs.	Less than 4 yrs.	Consult doctor.	Consult doctor.
35-40 lbs.	4-6 yrs.	20 mg. (0.4 ml.)	3 mg. (0.3 ml.)
50-69 lbs.	7-9 yrs.	25 mg. (0.5 ml.)	4 mg. (0.4 ml.)
70-99 lbs.	10-12 yrs.	35 mg. (0.7 ml.)	6 mg. (0.6 ml.)
100 lbs. or more	13 yrs. or more	50 mg. (1.0 ml.)	8-10 mg. (0.8 to 1.0 ml.)

If breathing slows or stops,

- Give rescue breathing.
- Give medicine to reverse the effects of the I.M. pain medicine:

Give I.M. shot of **NALOXONE** (Narcan®; 0.4 mg./ml.).

Weight	Approximate Age	Dose
10-18 lbs.	1-7 mo.	0.08 mg. (0.2 cc.)
19-31 lbs.	8 mo. thru 2 yrs.	0.12 mg. (0.3 cc.)
32-49 lbs.	3-6 yrs.	0.2 mg. (0.5 cc.)
50-69 lbs.	7-9 yrs.	0.28 mg. (0.7 cc.)
70 lbs. or more	10 yrs. or more	0.40 mg. (1.0 cc.)

- After five minutes, may repeat, if needed.

Chart 3.2 B

Amount of Medicine to Give: Some Common Problems**TABLETS OR CAPSULES**

You Want: (dose)	You Have: (strength)	You Give: this amount:	Examples:
50 mg.	25 mg.	2 tablets or capsules.	DIPHENHYDRAMINE (Benadryl®)
125 mg.	250 mg.	½ tablet (Do NOT cut <i>capsules</i> or pour out any of their powder).	Antibiotics
500 mg.	250 mg.	2 tablets or capsules.	
1000 mg.	250 mg.	4 tablets.	
1000 mg.	500 mg.	2 tablets.	

LIQUIDS

You Want:	You Have:	You Give:	Examples:
25 mg.	12.5 mg. in 5 ml.	10 cc. (2 tsp.)	DIPHENHYDRAMINE Elixir (Benadryl®)
50 mg.	12.5 mg. in 5 ml.	20 cc. (4 tsp.)	
125 mg.	250 mg. in 5 ml.	2.5 cc. (½ tsp.)	
250 mg.	125 mg. in 5 ml.	10 cc. (2 tsp.)	Liquid antibiotics.
500 mg.	125 mg. in 5 ml.	20 cc. (4 tsp.)	
500 mg.	250 mg. in 5 ml.	10 cc. (2 tsp.)	
1000 mg.	0.5 Gm. in 5 ml.	10 cc. (2 tsp.)	

PENICILLIN TUBEX

You Want:	You Have:	You Give:	Examples:
300,000 U.	600,000 U. Tubex®	½ Tubex®	PROCAINE PENICILLIN G (Wycillin®)
300,000 U.	1,200,000 U. Tubex®	¼ Tubex®	
600,000 U.	1,200,000 U. Tubex®	½ Tubex®	
900,000 U.	1,200,000 U. Tubex®	¾ Tubex®	BENZATHINE PENICILLIN (Bicillin LA®)
1,200,000 U.	600,000 U. Tubex®	2 Tubexes®	
1,200,000 U.	2,400,000 U. Tubex®	½ Tubex®	
4,800,000 U.	2,400,000 U. Tubex®	2 Tubexes®	

USING INJECTABLE MEDICINE

GENERAL APPROACH

Wash your hands before preparing or giving a medicine.

Use sterile technique. Do NOT touch needle.

Dispose of needles and syringes according to guidelines in your region.

USING A TUBEX® SYRINGE

1. Get Set Up

1.1 The medicine and dose should be ordered by the doctor or by this manual.

1.2 Ask patient if he is allergic to the medicine.

1.3 Check the medicine for:

- Name and strength.
- Expiration date.

1.4 Decide the amount of medicine to give (p.415).

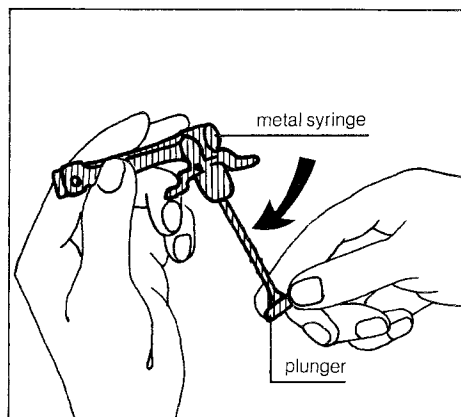
1.5 Roll the glass cartridge of medicine in your hands to warm the medicine.

2. Open Back of Tubex®

2.1 Hold metal syringe in one hand.

2.2 Pull plunger all the way back.

2.3 Swing plunger to side.



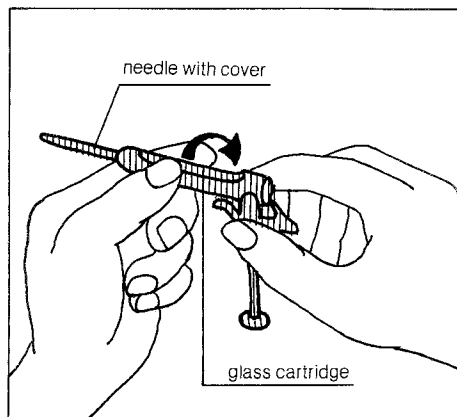
Opening Tubex®.

3. Attach Glass Cartridge

3.1 Place needle end into barrel first.

3.2 Turn glass cartridge clockwise.

- Screw it into the front of the metal syringe until it clicks.



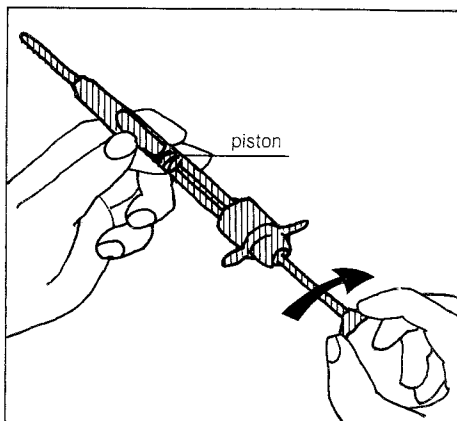
Attach glass cartridge.

4. Attach Plunger

4.1 Swing plunger back into place.

4.2 Twist plunger clockwise to screw it on to the piston.

- Hold onto the *metal* part, not the glass cartridge.
- Do NOT tighten too much! When glass cartridge starts to turn, plunger is on tight enough.



Attach plunger.

5. Recheck What You Are Giving, and Give the Shot

5.1 What dose do you want to give?

5.2 What strength medicine do you have?

5.3 What amount should you give?

5.4 What amount is in the glass cartridge?

- Make sure you are reading the markings correctly.
- If there is too much medicine in syringe:
 - ☐ remove needle cover.
 - ☐ squirt out any extra medicine.

5.5 Give the shot (injection).

6. To Remove Empty Glass Cartridge

After you give the shot, to remove empty glass cartridge, reverse what you did above, as follows:

6.1 Put the rubber needle cover back on.

6.2 Unscrew the plunger, pull it back, and swing it to the side.

6.3 Unscrew and remove glass cartridge.

GETTING DISPOSABLE SYRINGES AND NEEDLES READY

1. Decide What Syringe and Needle to Use

1.1 For most immunizations (DPT, Td) and for PPD, use a 1 cc. "tuberculin" syringe.

1.2 For medicine not in Tubex® cartridges, find the right size syringe for the amount of medicine you will inject.

- For most medicines, use a 2 or 3 cc. syringe.
- For LIDOCAINE (Xylocaine®), use a 5, 10, or 20 cc. syringe, depending on the amount you need and can safely give (p.346).

1.3 Choose the right needle:

- For subcutaneous or intradermal, use 25 gauge, $\frac{5}{8}$ inch long (25G x $\frac{5}{8}$ ").

- For I.M. in child less than 40 lbs., use 22 gauge, 1 inch long (22G x 1").
 - For I.M. in patient 40 lbs. or more:
 - in buttock, hip area, or thigh muscle, use 22 gauge, 1½ inches long (22G x 1½").
 - in arm muscle, use 22 gauge, 1 inch long (22G x 1").
- 1.4** Understand INSULIN syringes, if needed. These syringes are used to inject INSULIN subcutaneously in patients with diabetes.
- Most INSULIN syringes have a needle attached. If not, use a 25 gauge, 5/8 inch needle.
 - INSULIN syringes are marked in units. The scale should be U-100.

2. Get the Syringe Ready

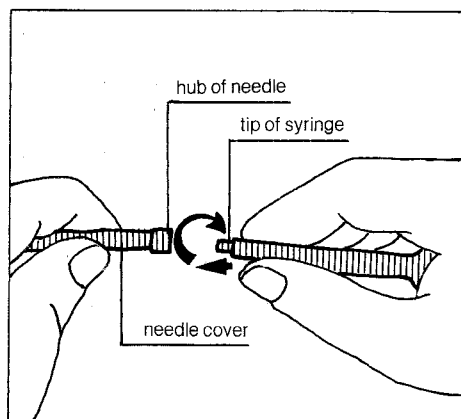
- 2.1** Take off wrapper or plastic container.
- 2.2** If tip of syringe has a protective cover, take it off.
- 2.3** Do NOT let the open tip of syringe touch anything.

3. Get the Needle Ready

- 3.1** Take off the paper wrapper.
- 3.2** Hold onto the plastic needle cover.
- 3.3** Do NOT let the open needle hub touch anything.

4. Attach Needle to Syringe

- 4.1** Place tip of syringe into hub of needle.
- 4.2** Put needle on tight: Push and twist.
- 4.3** Leave needle cover on until you are ready to fill syringe with medicine.



Attach needle to syringe.

5. To Remove Needle Cover

- 5.1** Pull needle cover straight off needle to avoid sticking yourself.

DRAWING UP MEDICINE FROM A RUBBER-STOPPERED BOTTLE

Summary DRAWING UP MEDICINE FROM A RUBBER-STOPPERED BOTTLE

1. Get Set Up.
2. Get Bottle Ready.
3. Add Air to Bottle.
4. Draw Up the Medicine.
5. Squirt Out the Air.
6. Recheck What You Are Giving.
7. Can Bottle Be Used Again?

1. Get Set Up

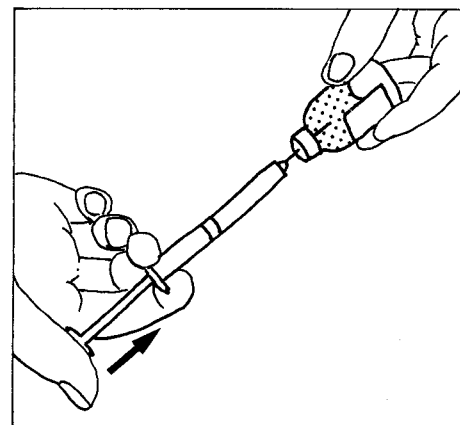
- 1.1** The medicine and dose should be ordered by the doctor or by this manual.
- 1.2** Ask patient if he is allergic to the medicine.
- 1.3** Check the medicine for:
- Name and strength.
 - Expiration date.
- 1.4** Decide the amount of medicine to give (p.415).
- 1.5** Get the disposable syringe and needle ready (p.419).

2. Get Bottle Ready

- 2.1** If a new bottle, take off plastic or metal protective cap.
- 2.2** Shake well, if needed.
- 2.3** Clean the rubber stopper well with ALCOHOL or POVIDONE-IODINE (Betadine®) wipe.
- Let it dry.

3. Add Air to Bottle

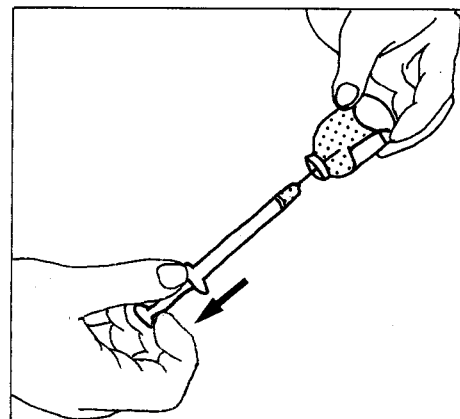
- 3.1** Pull plunger back so that syringe contains as many cc. of air as the amount of medicine you want to give.
- 3.2** Remove needle cover. Stick needle into bottle through center of rubber stopper.
- 3.3** Hold bottle upside down.
- 3.4** Push air from syringe into bottle.
- If you want to draw up a large amount of medicine, push a little air in and withdraw a little medicine, repeating as needed.



Add air to bottle.

4. Draw Up the Medicine

- 4.1** Be sure tip of needle is in the liquid.
- 4.2** If possible, draw up a little more medicine than you want.

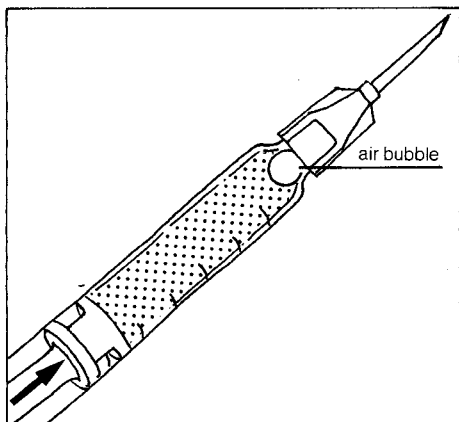


Draw up the medicine.

- 4.3** Remove needle from bottle.
- 4.4** *If you are giving DTP (Diphtheria, Tetanus, Pertussus) or Td (Tetanus, diphtheria), change to a new needle now. This may help to prevent a sterile abscess.*

5. Squirt Out the Air

- 5.1** Point the needle up.
- If needed, tap syringe to get bubbles to the top.
- 5.2** Squirt out air bubbles.

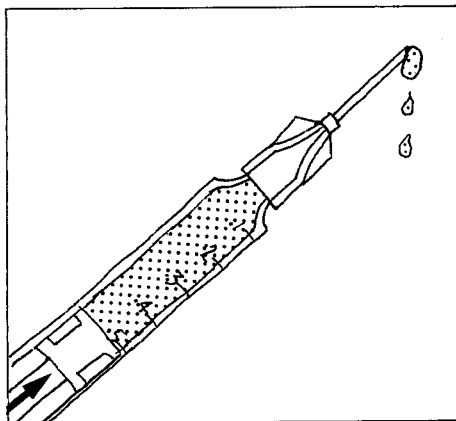


Squirt out air.

- 5.3** Put needle cover back on.

6. Recheck What You Are Giving

- 6.1** What dose do you want to give?
- 6.2** What strength medicine do you have?
- 6.3** What amount should you give?
- 6.4** What amount is in the syringe?
- Make sure you are reading the markings on syringe correctly.
 - *If there is too much medicine in syringe:*
 - ☐ remove needle cover.
 - ☐ squirt out any extra medicine.



Squirt out any extra medicine.

7. Can Bottle Be Used Again?

- 7.1** Decide if the medicine can be used again:
- Read directions.
 - AMPICILLIN for injection must be used within about 1 hour after mixing.
 - Many drugs can be used for 30 days, such as:
 - ☐ DIPHTHERIA, TETANUS, and PERTUSSUS (DTP).
 - ☐ LIDOCAINE (Xylocaine®).
- 7.2** *If bottle can be used again, do the following:*
- Date bottle when you first use it.
 - *If medicine was mixed from powder, it must be refrigerated after mixing.*
 - Store other medicines as directed on bottle or in a drug reference.
 - Plan to discard the bottle 30 days after you first use it.
 - ☐ these bottles contain a preservative. For about a month, the preservative helps to prevent growth of bacteria that enter the bottle when air is injected.
 - ☐ wait until the replacement comes before you discard the old medicine.
- 7.3** Plan to order a new bottle with your next drug order.

MIXING POWDERED MEDICINE OR VACCINE FOR INJECTION

1. Get Set Up

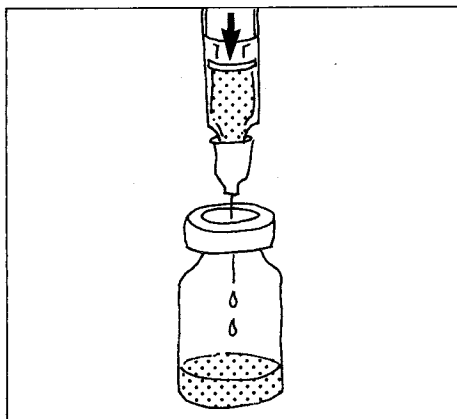
- 1.1** The medicine and dose should be ordered by the doctor or by this manual.
- 1.2** Ask patient if he is allergic to the medicine.
- 1.3** Check the medicine for:
- Name and strength.
 - Expiration date.
- 1.4** Decide the amount of medicine to give (p.415).
- ☐ *if giving MMR (MEASLES, MUMPS, RUBELLA vaccine), you will give all of the vaccine that you mix.*
- 1.5** Read directions. The directions for mixing will tell you:
- What sterile liquid (diluent) to use:
 - ☐ sterile water for injection, or
 - ☐ sterile saline for injection.
 - Amount of sterile liquid to use.
 - ☐ *if giving MMR, the liquid is already measured.*
- 1.6** Get the disposable syringe and needle ready (p.419).

2. Draw Up the Sterile Liquid

- 2.1** Do this the same as you would draw up medicine from a rubber-stoppered bottle (p.420).

3. Mix the Medicine

- 3.1** Clean medicine bottle's rubber stopper with ALCOHOL or POVIDONE-IODINE (Betadine®) wipe.
- Let it dry.
- 3.2** Stick needle into bottle through center of rubber stopper.
- 3.3** Squirt the sterile liquid into bottle.



3.4 Dissolve powder completely by gently swirling or shaking bottle.

4. Draw Up the Medicine

4.1 Do this the same as you would when drawing up any medicine from a rubber-stoppered bottle (p.420). Remember to:

- Recheck what you are giving.
- Squirt out any extra medicine.

DRAWING UP MEDICINE FROM AN AMPULE

1. Get Set Up

1.1 The medicine and dose should be ordered by the doctor or by this manual.

1.2 Ask patient if he is allergic to the medicine.

1.3 Check the medicine for:

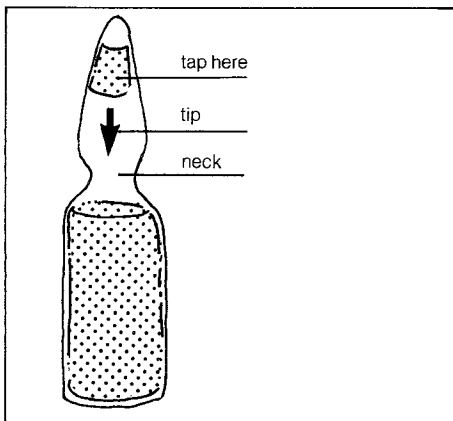
- Name and strength.
- Expiration date.

1.4 Decide the amount of medicine to give (p.415).

1.5 Get the disposable syringe and needle ready (p.419).

2. Get the Ampule Ready

2.1 Tap the glass ampule to get the medicine out of the tip and into the bottom.

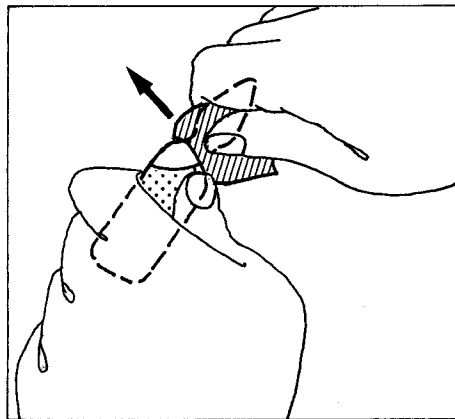


2.2 Wipe the neck of the ampule well with:

- ALCOHOL or POVIDONE-IODINE (Betadine®) wipe.
- Next, sterile gauze.

2.3 Cover tip of ampule with gauze.

2.4 Break off neck of ampule by pushing away from you with thumb.



Break off neck of ampule.

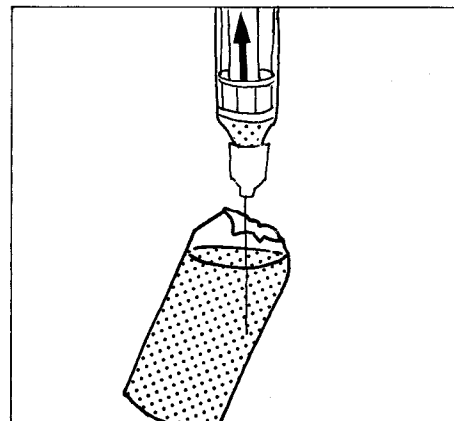
3. Draw Up the Medicine

3.1 Remove needle cover.

3.2 Place needle into the ampule.

3.3 Draw up the medicine.

3.4 Watch for tiny splinters of glass in the medicine. Do not draw glass into the syringe!



Draw up the medicine.

4. Squirt Out the Air and Recheck What You Are Giving

4.1 Do this the same as you would when drawing up any medicine (p.420), including:

- Remember to squirt out any extra medicine.

GIVING AN INTRA-MUSCULAR (I.M.) INJECTION

I.M. = /into the Muscle.

I.M. INJECTION

Equipment/supplies needed:
Correct syringe/needle/medicine (p.419)

ALCOHOL or POVIDONE-IODINE (Betadine®) wipes

2x2 or 4x4 gauze pad

Bandaid®

EPINEPHRINE in Tubex® syringe

INJECTING INFANTS & CHILDREN LESS THAN 40 POUNDS

Summary GIVING AN I.M. INJECTION: PATIENT LESS THAN 40 POUNDS

1. Get set up.
2. Position the Child.
3. Find the Right Spot to Inject.
4. Get Injection Site Ready.
 - Wipe with ALCOHOL or POVIDONE-IODINE (Betadine®).
5. Insert Needle.
6. Aspirate.
7. Inject.
8. Remove Needle.
9. Observe Child.

1. Get Set Up

- 1.1 Ask parent if child is allergic to the medicine.
- 1.2 Explain to parent and child what you will do.
- 1.3 Wash your hands.
- 1.4 Get your syringe, needle, and correct medicine ready to inject (p.419, "Using Injectable Medicine").
 - If amount you are giving is more than 3 cc. (or in infant, more than 1 cc.), it is best to divide the medicine into two shots, one on each side of the body.
 - Put on needle cover while you get child ready.

2. Position the Child

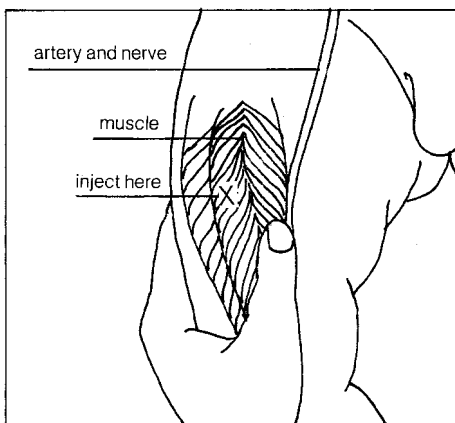
- 2.1 Ask parent to remove clothes from child's thigh.
- 2.2 Position:
 - Have parent hold and comfort child in lap.
 - Or, lay child on his back on exam table.
- 2.3 Stand at child's feet.
- 2.4 When you are ready to inject, have parent or other person help you to hold child from above.

3. Find the Right Spot to Inject

- 3.1 Look at front of child's thigh.
- 3.2 The spot to inject (injection site) is the muscle area in middle of thigh, slightly to the side, as shown in the next drawing.

4. Get Injection Site Ready

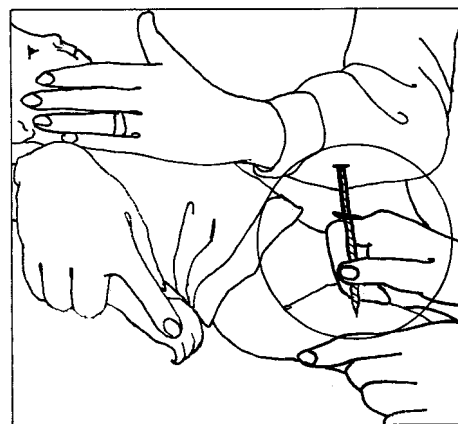
- 4.1 Clean the skin well with ALCOHOL or POVIDONE-IODINE (Betadine®) wipe.
 - Wipe skin where you will inject.
 - Let skin dry.
- 4.2 Remove needle cover. Hold syringe like a pencil in the hand you will use to inject.
- 4.3 With your other hand, hold both sides of muscle you will inject, as in the next drawing.
 - Squeeze thigh a little to keep muscle in that spot.
 - Use that same arm to keep leg from moving too much.



Injection site: thigh muscle.

5. Insert Needle

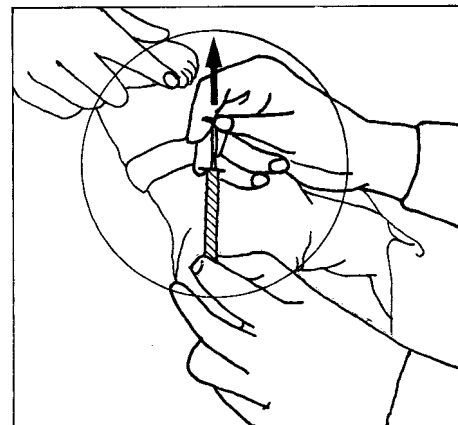
- 5.1 Point the needle:
 - At a 90° (square) angle to the skin.
 - Straight toward center of the muscle.
- 5.2 Quickly stick the whole needle into the muscle, with a dart-like motion.



Insert needle.

6. Aspirate

- 6.1 With same hand that is holding thigh, slide your fingers to hold onto syringe.
 - This helps to keep needle from moving when child moves and when you inject.
- 6.2 Pull back on the plunger (aspirate) to make sure you are not in a blood vessel.



Aspirate before injecting.

- 6.3 If blood appears:
 - Remove needle.
 - Dispose of needle and syringe.
 - Start again with new supplies and a new place to inject.

7. Inject

- 7.1 If no blood appears when you aspirate, inject the medicine slowly and smoothly.

8. Remove Needle

- 8.1 Quickly remove needle.
- 8.2 Apply pressure with gauze pad.
- 8.3 Put on a Bandaid®, if needed.
- 8.4 Dispose of needle and syringe.

9. Observe Child

- 9.1 Keep child around for 20-30 minutes to observe for severe allergic reaction (p.8).

INJECTING ADULTS & CHILDREN 40 POUNDS OR MORE

Summary GIVING AN I.M. INJECTION: PATIENT 40 POUNDS OR MORE

1. Get set up.
2. Choose a Place to Inject, and Position the Patient.
3. Find the Right Spot to Inject.
4. Get Injection Site Ready.
 - Wipe with ALCOHOL or POVIDONE-IODINE (Betadine®).
5. Insert Needle.
6. Aspirate.
7. Inject.
8. Remove Needle.
9. Observe Patient.

1. Get Set Up

- 1.1 Ask patient if he is allergic to the medicine.
- 1.2 Explain to patient what you will do.
- 1.3 Wash your hands.
- 1.4 Get your syringe, needle, and correct medicine ready to inject (p.419, "Using Injectable Medicine").
 - If amount you are giving is more than 3 cc., it is best to divide the medicine into two shots, one on each side of the body.
 - Put on needle cover while you get patient ready.

2. Choose a Place to Inject, and Position the Patient

If needed, give patient a drape and have him remove clothes from the area. Choose one of the following places to inject:

2.1 Buttock muscle or hip area muscle:

- Do NOT use these places to inject routine immunizations.
- Use these places to inject most other medicines.
- Position:
 - ☐ for *buttock muscle*:
 - patient should lie on his abdomen.
 - next, have patient point his toes inward. Explain that this will help him to relax muscles in his buttocks.
 - ☐ for *hip area muscle*, patient should lie on his side.

2.2 Thigh muscle may also be used:

- Position: Patient should lie on his back.

2.3 Upper arm muscle:

- Use upper arm muscle to inject routine immunizations, such as:
 - ☐ hepatitis B vaccine (Heptavax®).
 - ☐ DTP (Diphtheria, Tetanus, Pertussus).
 - ☐ Td (Tetanus, diphtheria).
- Do NOT use upper arm muscle to inject most other medicines.
- Position: Patient should sit.

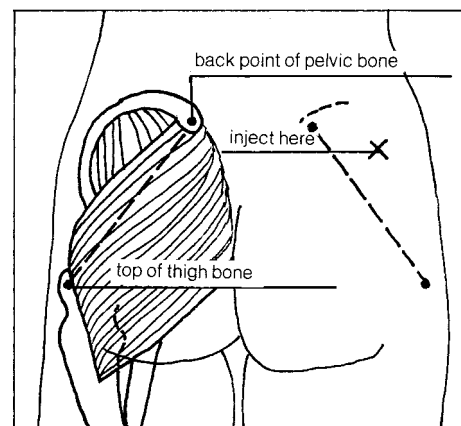
3. Find the Right Spot to Inject

It is NOT recommended to draw an imaginary cross on the buttock. If you use this method, you could hit the nerve. Instead, choose one of the following:

3.1 If injecting into *buttock muscle*:

- Feel for two bones, shown in the next drawing:
 - ☐ top of thigh bone (greater trochanter of femur).
 - ☐ back point of pelvic bone (posterior superior iliac spine).
- Draw an imaginary line between the two bones.

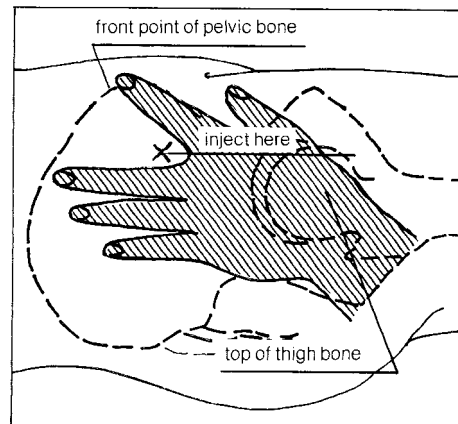
- The spot to inject (injection site) is just above the center of that imaginary line.



Injection site: **buttock muscle.**

3.2 If injecting into *hip area muscle*:

- Use your right hand on patient's left hip; use left hand on patient's right hip.
- Feel for two bones, shown in the next drawing:
 - ☐ top of thigh bone (greater trochanter of femur).
 - ☐ front point of pelvic bone (anterior superior iliac spine).
- Place palm of your hand over top of thigh bone.
- Place your pointer finger on the other bone.
- Move (spread) your middle finger, to make a "V," as in the next drawing.
- The spot to inject (injection site) is in the center of the "V."

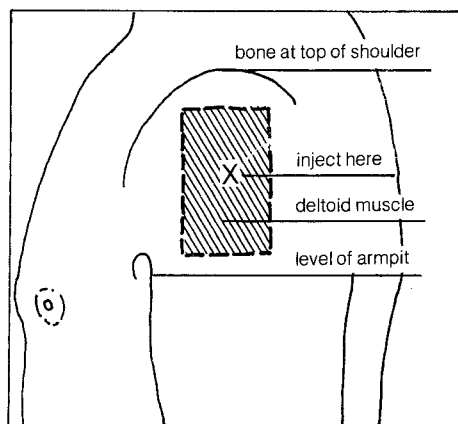


Injection site: **hip area muscle.**

3.3 If injecting into thigh muscle, the spot to inject (injection site) is the same as for infants (p.423).

3.4 If injecting into upper arm muscle:

- Look at top of patient's arm.
- The spot to inject (injection site) is shown in the next drawing:
 - ☐ in middle of deltoid muscle on side of arm.
 - ☐ in between the level of armpit and lower edge of bone at top of shoulder.



Injection site: upper arm muscle.

4. Get Injection Site Ready

4.1 Clean the skin well with ALCOHOL or POVIDONE-IODINE (Betadine®) wipe.

- Wipe skin where you will inject.
- Let skin dry.

4.2 Remove needle cover. Hold syringe like a pencil, in the hand you will use to inject.

4.3 With your other hand, stretch the skin tightly over the muscle.

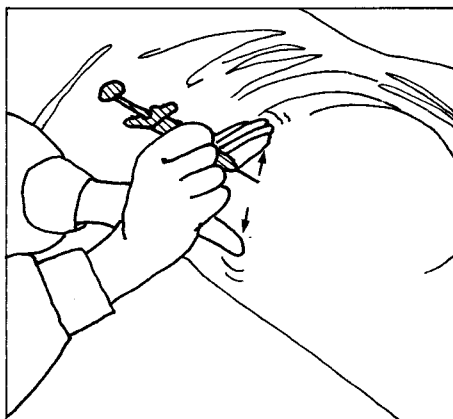
5. Insert Needle

5.1 Point the needle:

- At a 90° (square) angle to the skin.
- Straight toward center of the muscle.

5.2 Quickly stick the whole needle into the muscle, with a dart-like motion.

- If patient gets numbness, tingling, or pain shooting down leg or arm, remove the needle.



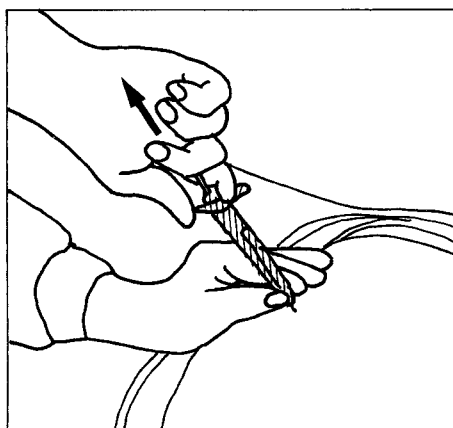
Insert needle.

6. Aspirate

6.1 With same hand that is holding the skin, slide your fingers to hold onto syringe

- This helps to keep needle from moving.

6.2 Pull back on the plunger (aspirate) to make sure you are not in a blood vessel.



Aspirate before injecting.

6.3 If blood appears:

- Remove needle.
- Dispose of needle and syringe.
- Start again with new supplies and a new place to inject.

7. Inject

7.1 If no blood appears when you aspirate, inject the medicine slowly and smoothly.

8. Remove Needle

8.1 Quickly remove needle.

8.2 Apply pressure with gauze pad.

8.3 Put on a Bandaid®, if needed.

8.4 Dispose of needle and syringe.

9. Observe Patient

9.1 Keep patient around for 20-30 minutes to observe for severe allergic reaction (p.8).

GIVING A SUBCUTANEOUS INJECTION

Subcutaneous (s.c., SQ.) = under the skin.

Examples of medicines given by subcutaneous injection:

- EPINEPHRINE.
- INSULIN.
- MMR (MEASLES, MUMPS, RUBELLA vaccine).

SUBCUTANEOUS INJECTION

Equipment/supplies needed:

correct syringe/ needle/ medicine (p.419)

ALCOHOL or POVIDONE-IODINE (Betadine®) wipes

2x2 or 4x4 gauze pad

Bandaid®

Summary GIVING A SUBCUTANEOUS INJECTION

1. Get Set Up.
2. Choose a Place to Inject, and Position the Patient.
3. Find the Right Spot to Inject.
4. Get Injection Site Ready.
 - Wipe with ALCOHOL or POVIDONE-IODINE (Betadine®).
 - Pinch up the skin.
5. Insert Needle.
6. Aspirate.
7. Inject.
8. Remove Needle.

1. Get Set Up

- 1.1** Ask patient if he is allergic to the medicine.
- 1.2** Explain to patient what you will do.
- 1.3** Wash your hands.
- 1.4** Get your syringe, needle, and correct medicine ready to inject (p.419, "Using Injectable Medicine").
- Put on needle cover while you get patient ready.

2. Choose a Place to Inject, and Position the Patient

If needed, give patient a drape and have him remove clothes from the area. Choose one of the following places to inject:

- 2.1** Upper arm.
- If older child or adult, most subcutaneous injections are given here.
 - Position: Patient should sit.
- 2.2** Other places for subcutaneous injection include:
- Thigh.
 - ☐ if child less than two years, most subcutaneous injections are given here.
 - ☐ position: Patient should lie on his back.
 - Fat over the upper abdomen.
 - ☐ position: Patient should lie on his back.

3. Find the Right Spot to Inject

3.1 If injecting into upper arm:

- Look at top of patient's arm.
- The spot to inject (injection site) is shown in the next drawing:
 - ☐ on side of arm, in middle of area where deltoid muscle is found.
 - ☐ in between the level of armpit and lower edge of bone at top of shoulder.

3.2 If injecting into thigh, the spot to inject (injection site) is in middle of thigh, slightly to the side, the same area of skin as I.M. injection site (p.423).

4. Get Injection Site Ready

4.1 Clean the skin well with ALCOHOL or POVIDONE-IODINE (Betadine®) wipe.

- Wipe skin where you will inject.
- Let skin dry.

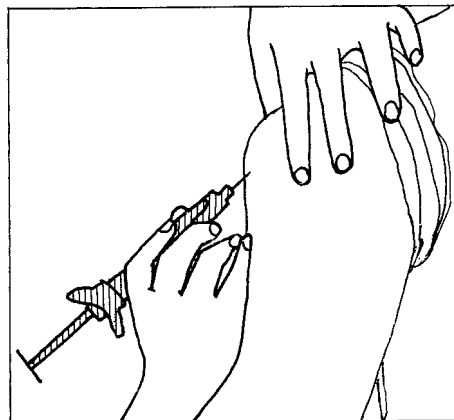
4.2 Remove needle cover. Hold syringe like a pencil, in the hand you will use to inject.

4.3 With your other hand, pinch up the skin and fat where you will inject.

5. Insert Needle

5.1 Point the needle, bevel up, at a **45° angle** to the skin.

5.2 Quickly stick the whole needle into the skin, with a dart-like motion.



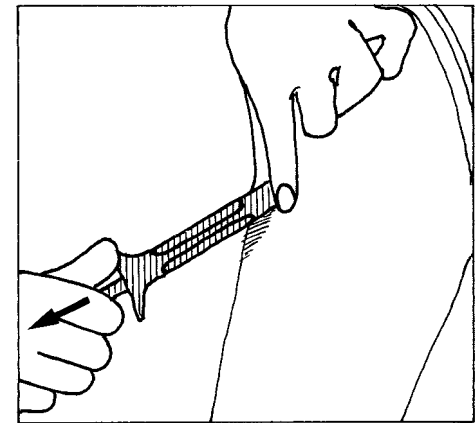
Insert needle.

6. Aspirate

6.1 Stop pinching up the skin. Move your fingers to hold onto syringe.

- Holding the syringe helps to keep needle from moving.

6.2 Pull back on the plunger (aspirate) to make sure you are not in a blood vessel.



Aspirate before injecting.

6.3 If blood appears:

- Remove needle.
- Dispose of needle and syringe.
- Start again with new supplies and a new place to inject.

7. Inject

7.1 If no blood appears when you aspirate, inject the medicine slowly and smoothly.

8. Remove Needle

8.1 Quickly remove needle.

8.2 With gauze pad:

- Apply pressure.
- Gently massage the area, if needed, for medicine to be absorbed faster.

8.3 Put on a Bandaid®, if needed.

8.4 Dispose of needle and syringe.

STARTING & GIVING I.V. FLUIDS

I.V. (intravenous) = /nto the Vein.

Keep I.V. equipment together, so it is handy in an emergency. Review this section and check your equipment before you start.

I.V.

Equipment/supplies needed:

Something to hang I.V. bag with:
coat hanger, roll of gauze, other
2-3 bags of I.V. fluid, such as: 5%
DEXTROSE & 0.9% SODIUM
CHLORIDE

LACTATED RINGER'S
LACTATED RINGER'S WITH 5%
DEXTROSE

I.V. tubing set (Solution
Administration Set)

I.V. needles, assorted sizes
(catheter-covered type or Butterfly®
type)

Roll of adhesive tape
ALCOHOL or POVIDONE-IODINE
(Betadine®) wipes

2x2's (gauze sponges)

Towel

Rubber blood drawing tourniquet or
blood pressure cuff

Magazine or board for splint
Bandaids®

2. Get I.V. Bag Ready.
3. Connect I.V. Tubing to Bag.
4. Run Fluid Through I.V. Tubing.
5. Find a Good Vein.
 - Put on tourniquet.
6. Get Injection Site Ready & Insert Needle.
 - Clean skin well.
 - **Keep I.V. from moving once it is where you want it.**
 - Release tourniquet.
7. Immediately Connect I.V. Tubing & Turn On I.V.
8. Tape I.V. in Place.
9. Adjust the rate.
10. Recheck I.V. Often.

1. Getting Started

1.1 Patient should lie down.

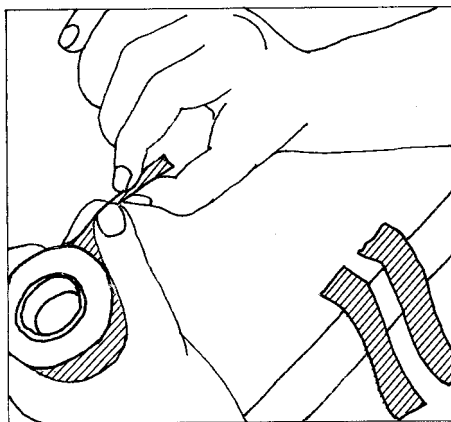
- If a child or uncooperative patient, have helper plan to hold patient so arm can not move.

1.2 Explain to patient what you will do.

- 1.3 Wash your hands. If there is no clean water available, wipe your hands with ALCOHOL or POVIDONE-IODINE (Betadine®).

1.4 Get equipment ready.

- Check to see that you have all of the equipment listed above.
- Lay it out so that it is handy to use.
- 1.5 Tear off 4-5 pieces of tape.
- Hang the pieces of tape nearby, so that they are ready to use.



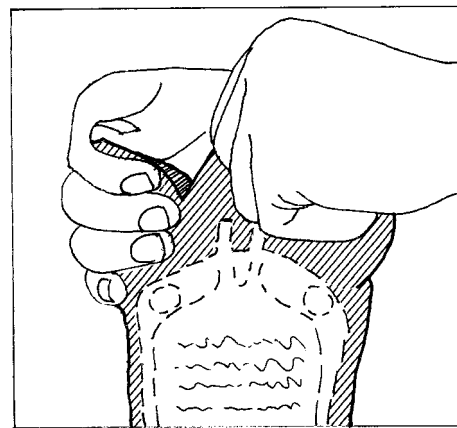
Hang tape where you can get it easily.

2. Get I.V. Bag Ready

2.1 Decide what I.V. fluid to use:

- For most emergencies, you will need I.V. bags of:
 - 5% DEXTROSE & 0.9% SODIUM CHLORIDE
 - or—
 - LACTATED RINGER'S
 - or—
 - LACTATED RINGER'S WITH 5% DEXTROSE
- You may have other I.V. fluids. *If you are not sure what to use, ask your referral doctor.*

2.2 Remove outer wrap. If there is a notch, start tearing there.



Remove outer wrap.

2.3 Check I.V. bag:

- Check expiration date.
- The fluid should look clear. It should not have anything floating around in it.
- Squeeze the bag:
 - ☐ it may normally feel slightly damp.
 - ☐ if you see tiny leaks, do not use it.

2.4 Hang bag from slot on end.

- Use hook of coat hanger, roll of gauze, or whatever works.
- Bag should hang 3 or 4 feet above patient's arm.

Summary STARTING & GIVING I.V. FLUIDS

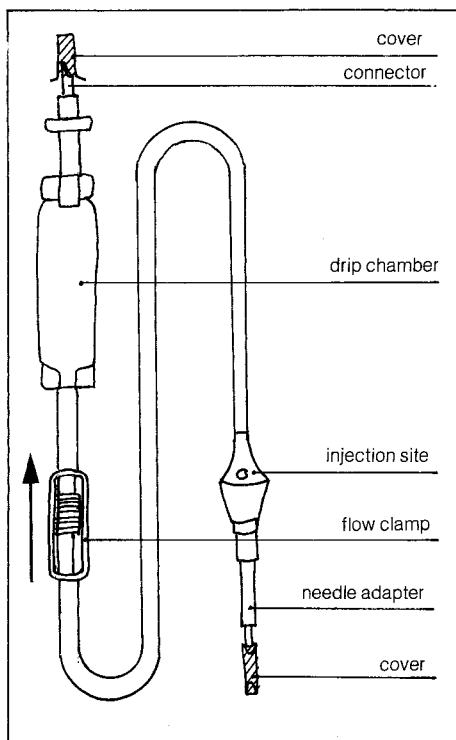
1. Getting Started:

- Patient should lie down.
- Explain to patient.
- Wash hands.
- Get Equipment Ready.
- Tear off 4-5 pieces of tape.

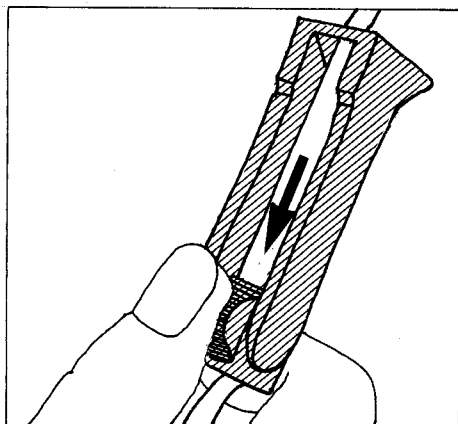
3. Connect I.V. Tubing to Bag

3.1 Remove tubing from box.

3.2 Move flow clamp up close to drip chamber. Then close flow clamp.

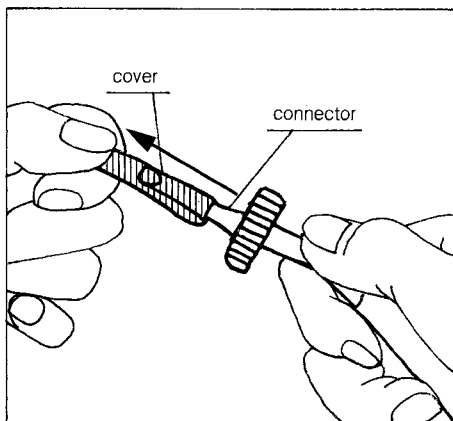


Move flow clamp close to drip chamber.

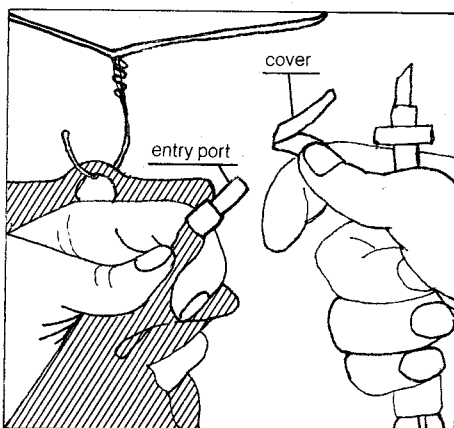


Close flow clamp.

3.3 Remove plastic cover from the sharp, pointed connector on I.V. tubing. Do NOT touch sterile connector tip.

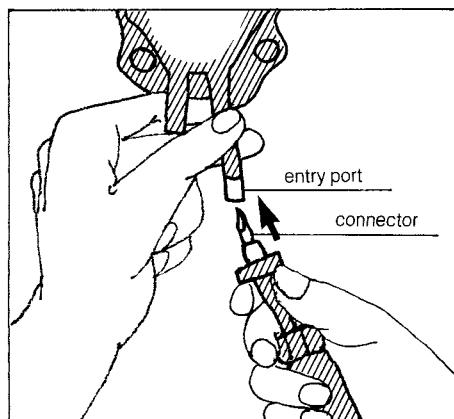


3.4 Remove plastic cover from entry port on I.V. bag. Do NOT touch sterile entry port opening.



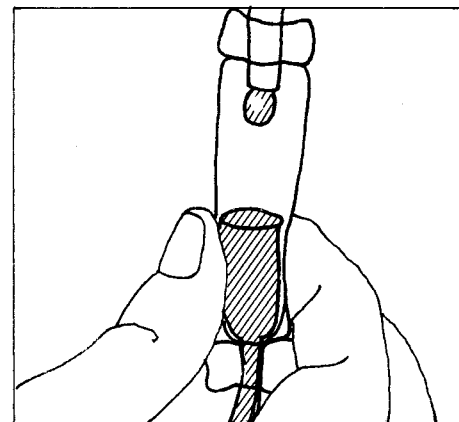
3.5 Hold entry port at its upper part. Insert connector:

- Do not touch sterile ends.
- Use a twisting motion.
- You will feel connector "give" when it is in.



4. Run Fluid Through I.V. Tubing

4.1 Squeeze and release drip chamber until it is half full of fluid.

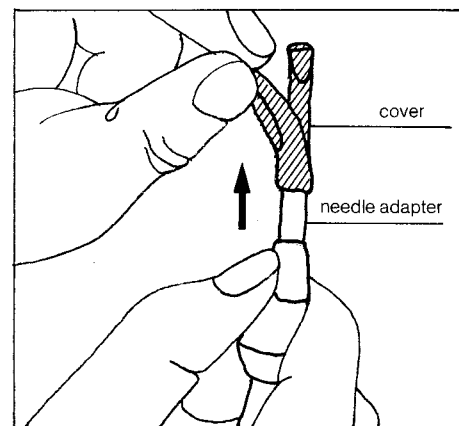


• If drip chamber gets too full to see drops, do the following:

- ☐ close flow clamp.
- ☐ turn I.V. bag upside down.
- ☐ squeeze drip chamber to get extra fluid back into bag.

4.2 Remove plastic cover from needle adapter end of tubing.

- Hold needle adapter. Do NOT touch its sterile end.



4.3 Open flow clamp. Fluid should run through tubing.

4.4 Close flow clamp when:

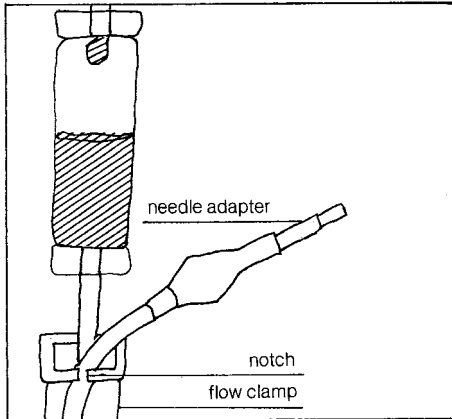
- Fluid drips out end.

AND

- There are no parts of tubing with air (A few small bubbles are OK).

4.5 Hang needle adapter where you can get it easily.

- Many flow clamps have a place that will hold I.V. tubing.
- Take care to see that nothing touches sterile end of needle adapter!
 - ☐ You may find it safer to put the plastic cover back on and remove it when you are going to connect I.V. tubing.



5. Find a Good Vein

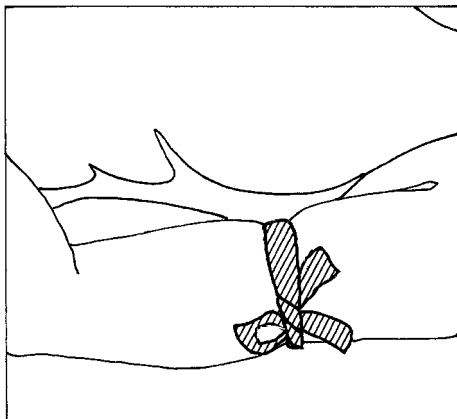
5.1 If needed, choose the arm that you can get to later.

- In some planes you can only reach one arm to check the I.V. site.

5.2 Have patient lower his arm. Let it hang for a moment.

5.3 Put on tourniquet, gently but firmly.

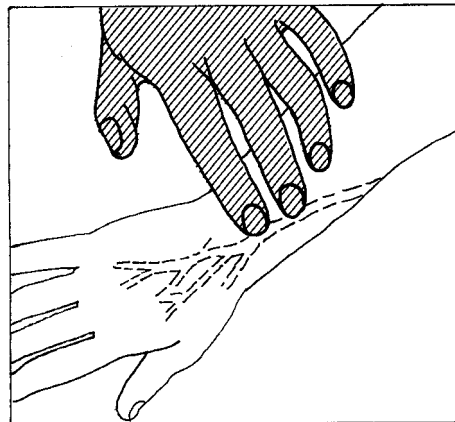
- Use:
 - ☐ a rubber tourniquet for blood drawing, or
 - ☐ a blood pressure cuff inflated to about 40-60 mm.



- If tourniquet is on for a while, loosen it every 2-3 minutes to make patient more comfortable. Then reapply it.

5.4 Look for a good vein:

- Find a vein that is as far down the arm (distal) as possible. If another I.V. is started on that arm, next vein used should be further up the arm.
 - ☐ start on back of hand.
 - ☐ avoid the inside area of wrist.
 - ☐ look up to forearm if necessary.
- Pick a vein that is fairly straight.
- It may be easier to put a needle in where two veins come together in an upside down "Y."
- The vein should stand out and have a "spongy" feel.
- Try to pick a spot that will not bend if hand or arm moves.
- *When you find a good vein, go to "6. Get Injection Site Ready and Insert Needle."*



If you can NOT find a good vein, you can help to fill veins with blood and make them stand out better. Do some or all of the following:

[1] With tourniquet in place, drop arm below level of the heart.

[2] Slap where vein is.

[3] Have patient make a fist several times.

[4] Rub arm from hand toward body.

[5] Put a warm, wet towel on the hand and arm for a minute or two.

[6] *If you still can not find a vein*, try the large vein where blood is drawn:

- It is on front of arm, just in front of the bend of elbow.
- There is also a large artery in this area, which you may hit by mistake.
 - ☐ feel for its pulse.
 - ☐ avoid pulse with needle.
- If you hit an artery, there will be a "pulse" of blood into the needle. Patient may also complain of shooting pain or numbness if you hit the nearby nerve. If this happens, take out the needle. Press where needle was for at least 5 minutes, to allow clot to form.

6. Get Injection Site Ready and Insert Needle

6.1 Put towel under patient's arm to catch any blood that drips.

6.2 Feel vein again.

6.3 Decide which I.V. needle to use:

- **Use the largest needle that looks like it will fit into the vein without tearing it.** Example: If an adult, try to use 18 gauge.
- The catheter-covered type will usually stay in longer and work better.
- The Butterfly® type is easier to put in.

6.4 Clean skin well with ALCOHOL or POVIDONE-IODINE (Betadine®):

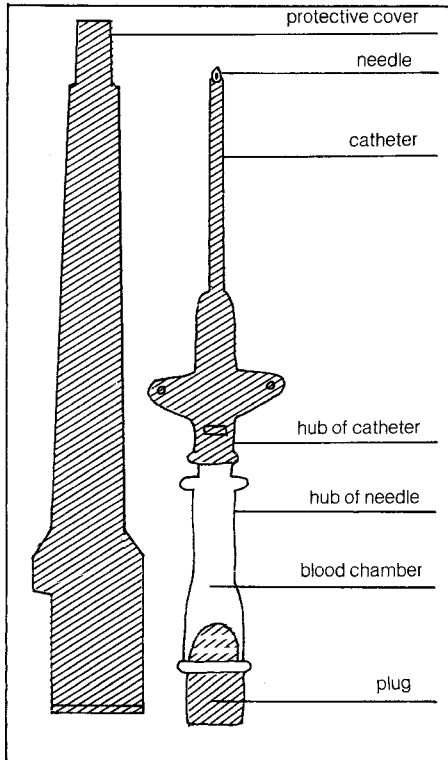
- Wipe skin where you will put in I.V. needle.
- Wipe your fingertips that will feel the vein.

6.5 Use directions that follow for catheter-covered type or Butterfly® type of I.V. needle. Be sure you:

- Understand the type of I.V. needle you are using before you use it.
- **Keep I.V. from moving once it is where you want it.**

Catheter-covered Type I.V. Needle

Examples: Jelco®, Quik-Cath®

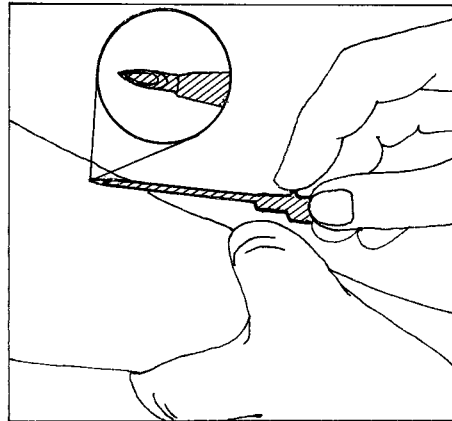


[1] Open package carefully and remove protective cover. Inside it is sterile. Do NOT touch needle or catheter.

[2] With one hand, hold hub of needle firmly:

- Rest your hand on patient. This will keep your hand steady.
- Needle should be:
 - ☐ with bevel up.
 - ☐ at small angle to skin.
 - ☐ pointing right at the vein.
 - ☐ lined up in same direction as the vein.
- One finger should also hold hub of catheter to keep it from sliding off of needle.

[3] With your other hand, tightly hold down skin just below the place where you will insert needle.



[4] Take a deep breath. As you let it out:

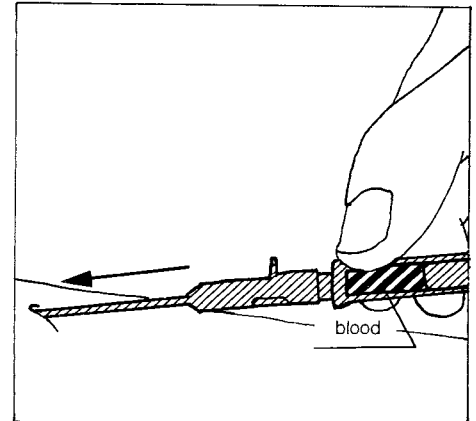
- Try to relax.
- Tell patient: "You are going to feel a stick."

[5] Insert needle:

- Once end of needle is under the skin:
 - ☐ advance needle toward vein.
 - ☐ it may help to lower hub of needle a little bit.
- As you enter the vein you may feel a slight "pop" or "give."
- Watch the clear plastic blood chamber. It will begin to fill with blood when you are into the vein.
- *If you do NOT get into the vein:*
 - ☐ feel for vein with fingertip of your other hand.
 - ☐ advance needle in the direction of the vein.
 - ☐ you may need to pull the needle and catheter back some and try again. *If so, be sure to pull back on both hub of needle AND hub of catheter at the same time!*
- *If you are sure you can NOT get into the vein:*
 - ☐ remove the I.V. (p.435).
 - ☐ try to insert an I.V. in the other arm.

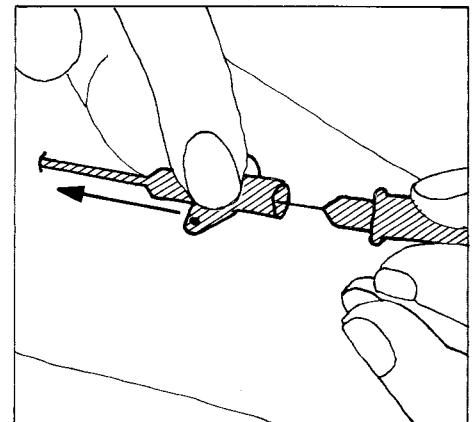
[6] *Once you see blood flow:*

- Lower hub of needle to skin level as you
- Carefully continue to advance needle *a little bit* until tip of catheter is also inside the vein (about $\frac{1}{8}$ inch).



Advance needle with care, about $\frac{1}{8}$ inch.

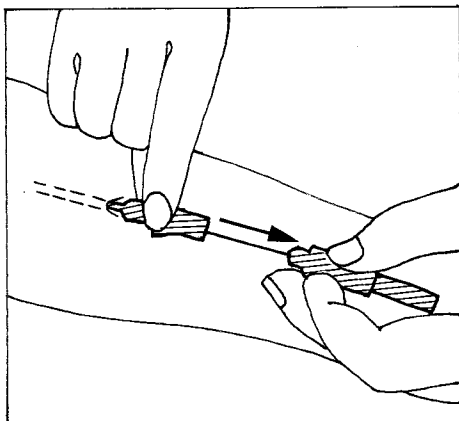
[7] Continue to hold hub of needle. Keep needle still while, with your other hand you slide just the catheter forward, inside the vein. Slide it in as far as it can go.



Slide just the catheter forward.

[8] Hold hub of catheter. Keep catheter still while you gently withdraw needle only.

- This will leave catheter inside the vein.
- Once you start to withdraw needle from the catheter, do NOT try to re-insert it. Doing that might cut off a piece of the catheter.



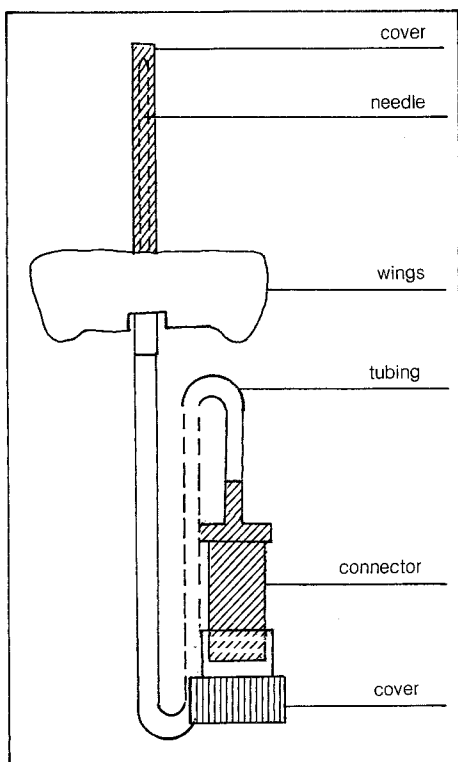
Withdraw needle only.

[9] Release tourniquet.

[10] Hold hub of catheter as you immediately connect I.V. tubing, turn on I.V., and tape I.V. in place:

Now go to "7. Immediately Connect I.V. Tubing & Turn On I.V."

Butterfly® Type I.V. Needle



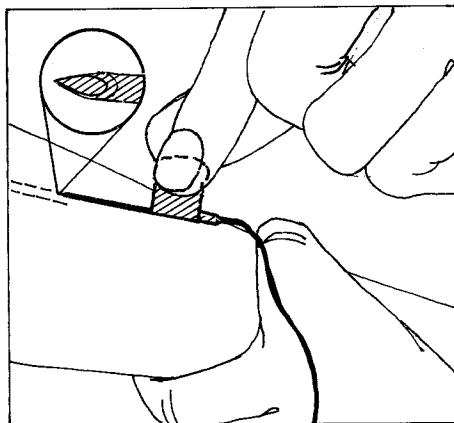
[1] Get I.V. needle ready:

- Open package carefully. Inside it is sterile.
- Remove needle cover. Do NOT touch needle.
- Remove plastic cover from the connector end of Butterfly® tubing. Do NOT touch sterile end.

[2] With one hand, hold "wings" of Butterfly® firmly:

- Rest your hand on the patient. This will keep your hand steady.
- Needle should be:
 - ☐ with bevel up.
 - ☐ at small angle to skin.
 - ☐ pointing right at the vein.
 - ☐ lined up in same direction as the vein.

[3] With your other hand, tightly hold down skin just below place where you will insert needle.



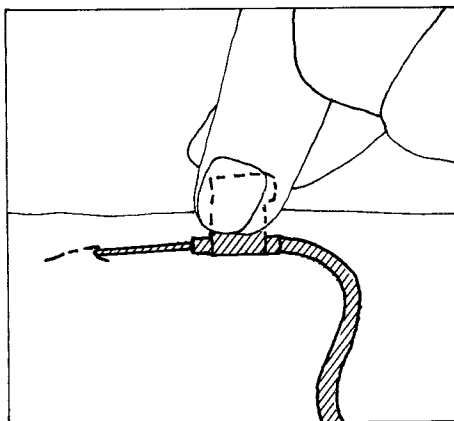
[4] Take a deep breath. As you let it out:

- Try to relax.
- Tell patient: "You are going to feel a stick."

[5] Insert needle:

- Once end of needle is under the skin:
 - ☐ lower the needle to near skin level. Needle should only be at a *very small* angle to skin.
 - ☐ advance needle toward vein.

- As you enter the vein you may feel a slight "pop" or "give."
- Watch the clear plastic tubing. It will begin to fill with blood when you are into the vein.



Lower needle to near skin level to enter vein.

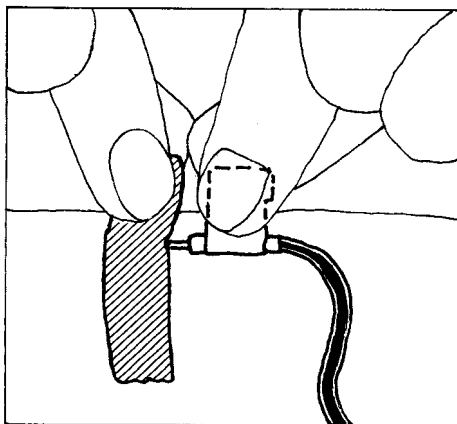
- *If you do NOT get into the vein:*
 - ☐ feel for vein with fingertip of your other hand.
 - ☐ advance needle in the direction of the vein.
 - ☐ you may need to pull the needle back some and try again.
- *If you are sure you can NOT get into the vein:*
 - ☐ remove the I.V. (p.435).
 - ☐ try to insert an I.V. in the other arm.

[6] Once you see blood flow:

- If a child, do NOT advance needle any further.
- If an adult, carefully continue to advance needle inside the vein:
 - ☐ advance as far into the vein as it will *easily* go.
 - ☐ if you feel resistance, stop immediately, or needle may push through vein.
 - ☐ blood should continue to flow as you are advancing.

[7] Next, *carefully* place piece of tape over needle, to hold Butterfly®.

- Do NOT let needle move.
- **Do NOT let go of Butterfly® until tape is in place.**



Place tape over needle.

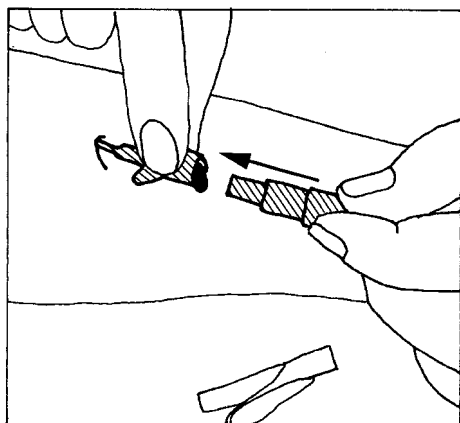
[8] Let blood fill the little clear plastic tube and drip out the end. This will get air out of tube.

[9] Release tourniquet with one hand while you hold Butterfly® with the other.

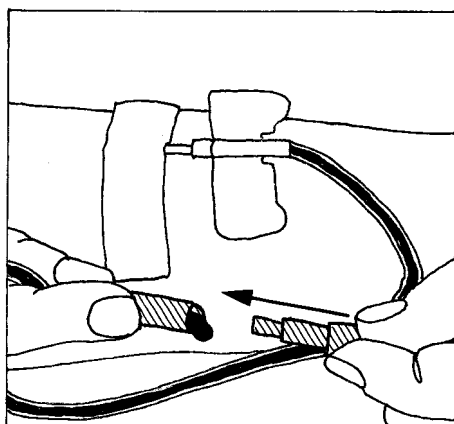
7. Immediately Connect I.V. Tubing & Turn On I.V.

7.1 Immediately connect needle adapter end of I.V. tubing to catheter or Butterfly®.

- Take care so that weight of tubing does not pull out I.V.



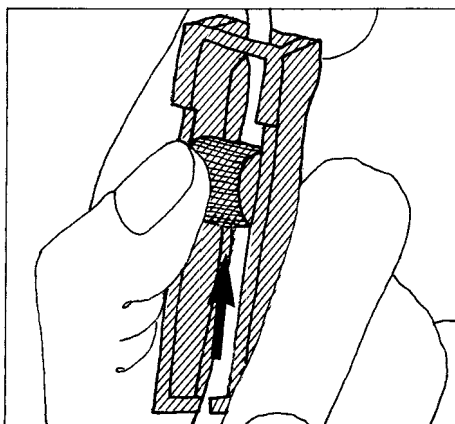
Connect needle adapter to catheter.



Connect needle adapter to Butterfly®.

7.2 Turn on I.V. Open flow clamp and let I.V. run at about 1 drop per second:

- **Be sure tourniquet is released!**
- The I.V. fluid should drip easily.
- No blood should back up into tubing.
- Patient should NOT feel pain as fluid drips in.



Open flow clamp to turn on I.V.

7.3 Look at the skin where you think the tip of the I.V. is located. If skin is swelling there, I.V. is in wrong place and must be removed.

8. Tape I.V. in Place

NOTE: Be careful. Do NOT let I.V. move while you tape it.

- 8.1** Clean blood from skin with gauze.
8.2 Tape the I.V.

- Do NOT put tape all the way around the arm. This could cut off circulation.
- Follow directions that follow for catheter-covered type or Butterfly® type of I.V. needle.

Taping a Plastic Catheter

[1] Hold onto hub of catheter. Tape catheter to the arm. Piece of tape should cover:

- Spot where catheter enters the skin.
- Part of hub of catheter.

[2] Tape needle adapter to arm, near place where it connects to hub of catheter.

[3] Make a loop with the I.V. tubing. Tape it to the arm. Doing this will keep a jerk on the tubing from pulling out the catheter.

[4] Keep arm from moving where I.V. is. Apply splint if necessary.

[5] Write with ink on the tape so others will know:

- Date, time I.V. started.
- Size of needle (gauge) used for I.V. (or you could tape the label from I.V. needle package to arm).

Taping a Butterfly® Type I.V.

[1] Hold Butterfly® with care. Do NOT let needle move.

[2] Put 2x2 gauze under the wings.

[3] Tape wings to patient's arm. Place tape right on top of wings.

[4] Coil up the small plastic tube and tape it down.

[5] Tape needle adapter to arm, near place where it connects to Butterfly® connector.

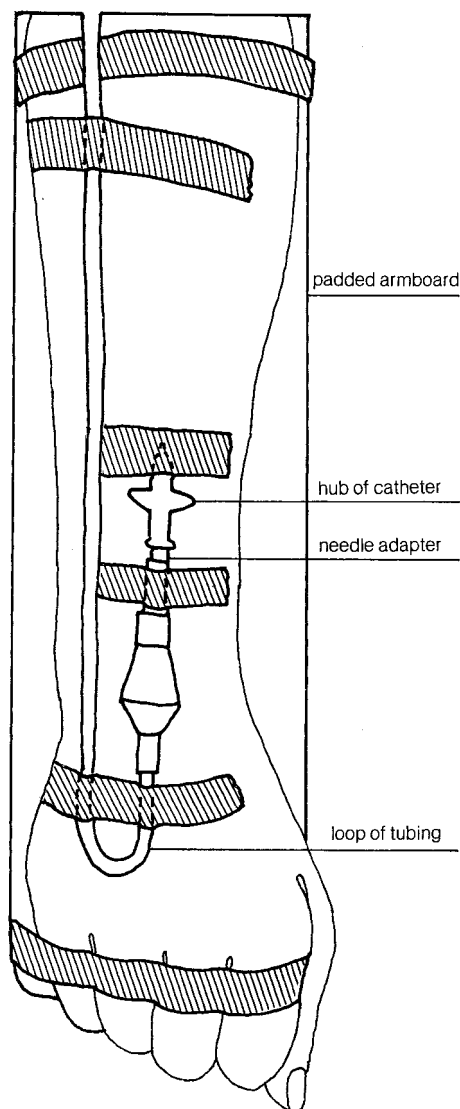
[6] Make a loop with the I.V. tubing. Tape it to the arm. Doing this will keep a real jerk on the tubing from pulling out the catheter.

[7] Apply splint or armboard:

- Be sure that the joint near the I.V. is splinted.
- Splint should not let arm move where needle is.

[8] Write with ink on the tape so others will know:

- Date, time I.V. started.
- Size of needle (gauge) used for I.V. (or you could tape the label from I.V. needle package to arm).



Plastic catheter taped in place.

9. Adjust the Rate

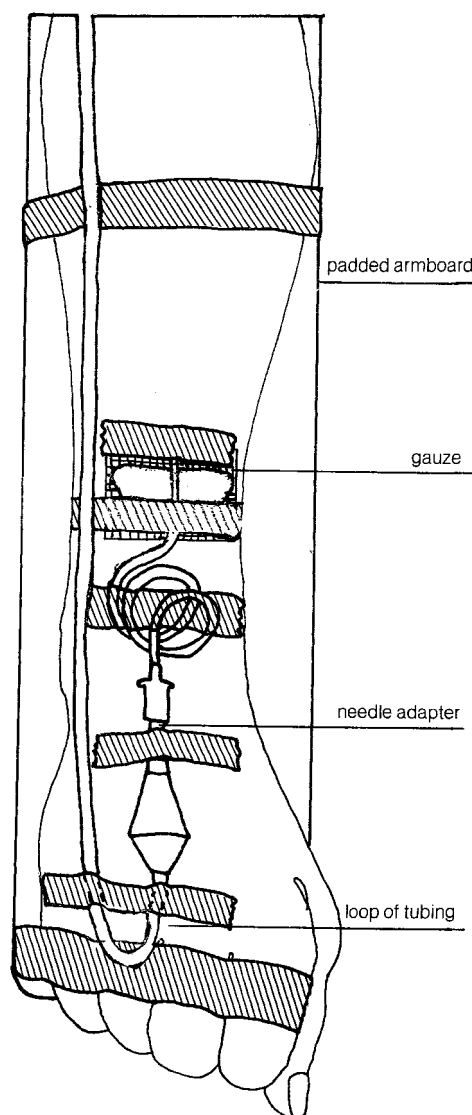
Rate of I.V. = the number of drops that fall in drip chamber in one minute.

9.1 Check your I.V. tubing set:

- You should have the standard I.V. tubing set. It gives 1 ml. of fluid for every 10 drops.
- If it says "Microdrip" or has a *needle* that drips fluid into drip chamber, it gives 1 ml. of fluid for every 60 drops.

9.2 Adjust rate of the I.V. as recommended by your referral doctor.

If you can NOT reach a doctor, follow the plan suggested for the patient's specific problem in this manual. Use the following for reference:



Butterfly® taped in place.

Adjusting the Rate of an I.V.

If patient is in shock (weak, fast pulse; low BP) from blood loss or fluid loss, do the following:

- Run in the amount of fluid listed in chart 9.2, **as fast as the fluid will flow.**
- Next, recheck P and BP.
- *If patient is still in shock,* continue to:
 - ☐ run in the same amount of fluid, as fast as it will flow.
 - ☐ recheck P and BP.
 - ☐ repeat the same amount of fluid, as needed for shock. An adult in

shock may need 3,000-5,000 ml. as soon as possible.

- If patient comes out of shock,
 - ☐ run I.V. at "maintenance rate" listed in chart 9.2.
 - ☐ recheck vital signs often.

If I.V. is put in ONLY for giving medicine, run I.V. at a very slow rate, just to "keep the vein open":

- For example,
 - ☐ if an adult, 6-10 drops/minute.
 - ☐ if a child, 3-5 drops/minute.
- To help keep the I.V. dripping, open the flow clamp and let I.V. run quickly for 1-2 seconds every 30-60 minutes.

If I.V. is put in for some reason OTHER than shock or giving medicine, run I.V. at "maintenance rate" listed in chart 9.2.

10. Recheck I.V. Often

10.1 Recheck I.V. at least every half hour. Check to see that:

- I.V. is running OK, at correct rate.
- Skin where I.V. is feels OK to the patient and looks OK.

10.2 Adjust I.V., as needed.

I.V.s: Some Problems

If you can NOT start an I.V., contact your referral doctor for advice. For a certain emergency such as a patient with dehydration who can not take liquid by mouth, the doctor may suggest that you give some I.V. fluid under the skin, by subcutaneous injection ("clysis"). Some I.V. fluids can be given this way, in smaller amounts than by giving them into a vein:

- I.V. equipment is set up as if you were starting an I.V. Use only 0.9% SODIUM CHLORIDE or plain LACTATED RINGERS I.V. fluid.
- Injection sites that can be used:
 - ☐ on the upper leg: the inner, middle thigh area.
 - ☐ on the back: on top of the lower part of the shoulder blade (scapula). Do NOT use this injection site if patient has any trouble breathing.

Chart 9.2

I.V. Rates

Age	For Shock Rate run in as fast as it will flow:	For Maintenance Rate:	
		Standard Set	Microdrip
Less than 1 year	100-175 ml.	4-6 drops/min. or 25-40 ml./hr.	25-40drops/min. or 25-40 ml./hr.
1-2 years	250 ml.	8 drops/min. or 50 ml./hr.	50 drops/min. or 50 ml./hr.
3-7 years	400 ml.	10 drops/min. or 60 ml./hr.	60 drops/min. or 60 ml./hr.
8-11 years	700 ml.	16 drops/min. or 100 ml./hr.	100 drops/min. or 100 ml./hr.
12 years or more	1000 ml.	20 drops/min. or 120 ml./hr.	120 drops/min. or 120 ml./hr.

- I.V. needle is inserted its full length into the subcutaneous tissue (p.425).
- Drip in fluid, as needed. Even in a child, 200-300 ml. can be given fairly easily.

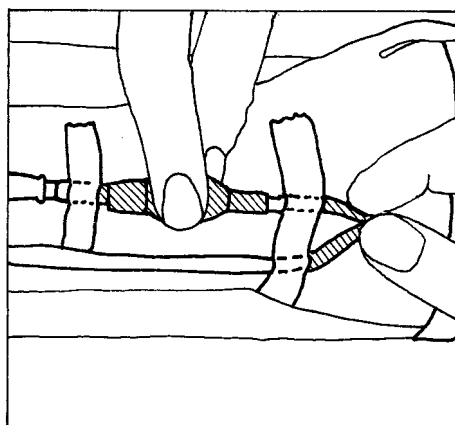
If an I.V. is not dripping enough with the flow clamp open, do the following:

If you are not sure I.V. is still in the vein, lower I.V. bag below the arm.

- If I.V. is still in the vein, blood will come back in I.V. tubing. Hang the bag up again.
- If I.V. is out of the vein, you will see no blood or just a little blood. Remove the I.V. (p.435).

If I.V. is still in the vein, try the following, as needed:

- Raise the I.V. bag higher.
- Try putting arm in different positions.
- The tip may be somewhat blocked:
 - ☐ pinch I.V. tubing closed just behind rubber Flashball® injection site.
 - ☐ squeeze Flashball® two or three times.
 - ☐ try to run fluid again.



- If I.V. still will NOT drip, the tip may be blocked by wall of vein:
 - ☐ pull I.V. catheter or needle back out of vein *a little bit* (about 1/8 inch).

If area around I.V. becomes painful, swollen and possibly red, the I.V. is out of the vein (infiltrated):

- Remove the I.V. (p.435).
- If an I.V. is still needed, try to insert one in the other arm.

I.V.s: Other Instructions

To change the I.V. bag, do the following:

- Remove plastic cover from entry port on new I.V. bag. Do NOT touch sterile entry port opening.
- Close flow clamp on I.V. tubing to turn off I.V.
- Remove connector from used I.V. bag. Do NOT touch sterile connector tip.
- Insert same connector into to new I.V. bag
- Open flow clamp to turn on I.V.

To give I.V. medicine, you should be carefully taught. Use the following as a reminder:

- Report to your referral doctor before giving I.V. medicine, unless this manual tells you differently.

If you can NOT reach a doctor, do NOT give I.V. medicine unless your referral doctor has signed for you to do this in an emergency when you can not reach him.

- Get your syringe, needle, and the correct medicine ready to inject (p.419).
- Check to see that I.V. is dripping OK.

- Clean rubber Flashball® injection site with ALCOHOL wipe.
- Pinch I.V. tubing closed just behind rubber Flashball® injection site.
- Inject the medicine as directed.
 - ☐ many I.V. medicines are injected slowly over several minutes.

To transport patient with I.V. fluids, do the following:

- Tape and protect the I.V. well, to prevent it from pulling out.
- *If air is cold, cover I.V. container and tubing as needed.*
- Check I.V. rate very often, especially in a plane.
- Follow other guidelines in a transportation reference.

To remove an I.V., do the following:

- Close flow clamp to turn off I.V.
- Get 2x2 gauze handy.
- With one hand, hold hub of catheter or "wings" of Butterfly® so they can not move.
- Use your other hand to remove *all* tape.
- Place 2x2 gauze over spot where I.V. enters the skin.
- Pull out the I.V.
 - ☐ keep it close to skin surface to prevent damage to the vein.
 - ☐ pull straight out, not sideways.
 - ☐ do this quickly and smoothly.
- As soon as I.V. is out, put pressure on gauze covering hole in skin.
 - ☐ do this for 1-2 minutes.
 - ☐ next, tape gauze in place, or put on a Bandaid®.

GIVING OXYGEN

You should be taught how to use OXYGEN by those who supply it in your region. Use the following guidelines as needed.

Equipment/supplies needed:

Oxygen tank
Regulator with flow meter
Nasal cannula with tubing attached
Oxygen mask with tubing attached

Warnings:

- Do NOT drop tank.
- Do NOT roll tank.
- Do NOT smoke around oxygen.
- Do NOT allow open flames around oxygen.
- Do NOT put grease or oil on regulator or flow meter.
- Do NOT use if tank filled less than 200psi.
- Use pressure gauges.
- Use medical grade oxygen.
- Store tank in a cool area.
- Have tank tested every 10 years.

[1] Decide if and when you should use oxygen.

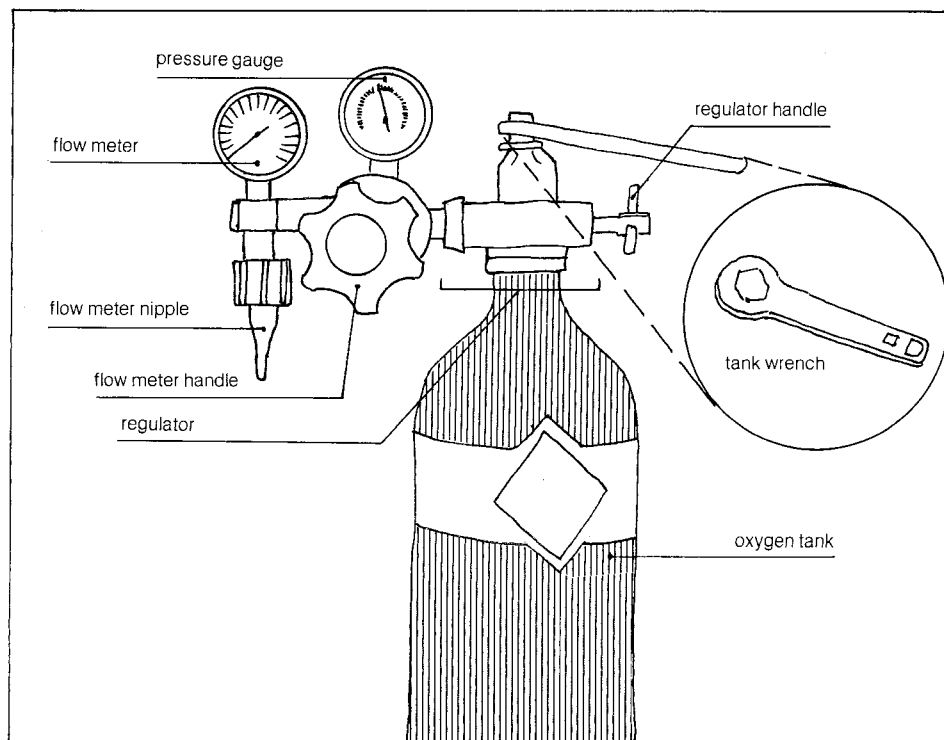
- Oxygen may especially help patients with the following problems:
 - ☐ not breathing (respiratory arrest).
 - ☐ heart not beating (cardiac arrest).
 - ☐ shock.
 - ☐ heart attack.
 - ☐ heart failure.
 - ☐ lung disease or severe chest injury.
 - ☐ something blocking airway (partial airway obstruction).
 - ☐ low fetal heart rate with woman in labor.

- ☐ stroke.
- ☐ head injury.
- ☐ poisoning, along with breathing problems.
- ☐ restlessness and confusion which may come from too little oxygen to brain.

- Ask your referral doctor, if there is time.
- Decide how long you will be able to give oxygen with the tank you have (chart A).
- Follow guidelines in your region. Your referral doctor may want you to give oxygen:
 - ☐ until a transport arrives with its own supply of oxygen.
 - ☐ or, only during transport if the transport will not have its own supply.

[2] Decide whether to use nasal cannula or oxygen mask.

- If history of chronic lung disease (emphysema, chronic bronchitis), use nasal cannula *only*.
- If patient has face injury, or for patient's comfort, you may decide to use nasal cannula.
- For all other patients, use a mask.



Parts of oxygen equipment.

[3] Get equipment ready.

- If needed, crack open the oxygen tank for 1-2 seconds to blow out any dust, and then close tank.
- Place regulator (with flow meter) on oxygen tank.
 - ☐ tighten regulator handle firmly.
- Open oxygen tank by turning with tank wrench or handle.
- Open flow meter by turning handle.
- Hook oxygen tubing to flow meter nipple.
 - ☐ tubing will be attached to nasal cannula or mask at the other end.

[4] Place mask or nasal cannula on patient.

- Explain to patient what you will do.
- If using mask, adjust elastic strap so:
 - ☐ there is a good seal between mask and patient's face, without causing discomfort.
 - ☐ it is comfortable.
- If using nasal cannula:
 - ☐ place nipple in each nostril.
 - ☐ drape tubing around patient's ear so it is comfortable.

[5] Turn on the oxygen. Set flow meter at rate suggested by your referral doctor.

If you can NOT reach a doctor,

follow these guidelines to help you set flow meter at correct rate:

- *If patient has chronic lung disease:*
 - ☐ give 1-2 liters/min. (L./min.) by nasal cannula *only*.
 - ☐ if you only have a mask, you may decide to cut the oxygen tubing off the mask and tape the tubing in patient's nose (similar to using a nasal cannula).
 - ☐ watch patient closely, he may get sleepy or confused from too much oxygen.
- For all other patients, give 6-10 liters/min. by mask.

Giving Oxygen: General Information

Check with your referral hospital to find out how long your oxygen tank will last at certain rates.

- Chart A gives guidelines (rough estimates) for how long different tanks will last.

- Remember, the faster the oxygen is flowing, the sooner the tank will become empty.

Chart A.

ABOUT HOW LONG WILL OXYGEN TANK LAST?

TANK SIZE	At 2 L/min.	At 6 L/min.	At 10 L/min.
D (350 L.)	3 hrs.	1 hr.	½ hr.
E (625 L.)	4½ hrs.	1½ hrs.	1 hr.
M (3000 L.)	28½ hrs.	9½ hrs.	5½ hrs.
H (7000 L.)	57½ hrs.	19 hrs.	11½ hrs.

If you have questions about using oxygen during patient transport,

- Follow guidelines in an emergency transport manual.
- Ask your referral doctor or health corporation for more information.

USING OTHER MEDICINES

Begin here for information on using medicines OTHER than injectable medicines. This section includes using the following:

- Powdered oral medicines.
- Eye ointment or drops.
- Ear drops.
- Nose drops.
- Rectal suppositories.
- Vaginal suppositories and creams.
- Sterile cream or ointment on the skin.
- A metered-dose inhaler.

GENERAL APPROACH

Follow guidelines as for giving any medicine to a patient (p.413), including:

- The medicine and dose should be ordered by the doctor or by this manual.
- Ask patient if he is allergic to the medicine.
- Check the medicine for:
 - ☐ name and strength.
 - ☐ expiration date.

Most medicines that are applied to part of the body may be used many times. Usually, each container of medicine should be used for only one patient.

Teach patient how to use those medicines he will be taking home.

MIXING POWDERED ORAL MEDICINES

Most antibiotic medicine for children is sent to you in powdered form. This medicine must be mixed with water (reconstituted) just before you give it to the patient.

[1] Get set up:

- The medicine and dose should be ordered by the doctor or by this manual.
- Ask patient if he is allergic to the medicine.
- Check the medicine for:
 - ☐ name and strength.
 - ☐ expiration date.

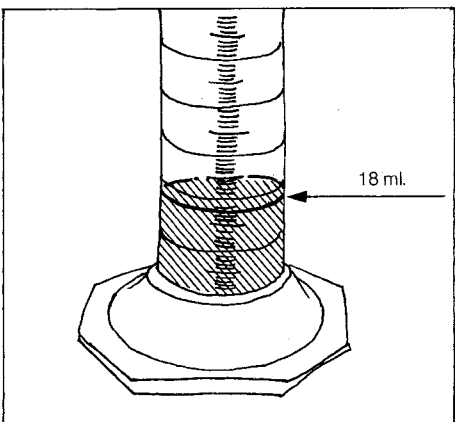
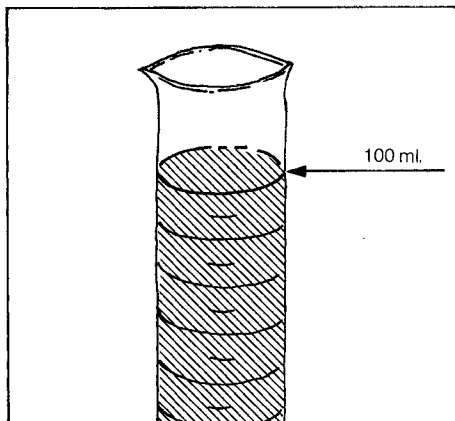
[2] Shake the bottle to loosen the powder.

- *If pharmacist sent a small bottle of water with that powdered medicine, the water is already measured for you. Now go to step 4.*

[3] Measure water carefully:

- Read label on bottle for exact amount of water to add.
 - ☐ amount of water to add may be different for each medicine and for different brands of the same medicine.
- Use a graduated cylinder to measure the exact amount of water:
 - ☐ measure from the bottom of curve that you see at top of water.

- ☐ if you put too much water into graduated cylinder:
 - pour out extra.
 - do NOT pour extra water back into clean water container.
- If the amount of water to add is more than 100 ml.:
 - ☐ first, measure out 100 ml.
 - ☐ after you mix in 100 ml., then measure out the rest.



100 ml. + 18 ml.

Measuring out 118 ml.

- [4]** Add about half of the water to the medicine bottle.
- [5]** Put on the cap and shake well.
- [6]** Next, add rest of the water, and finish mixing until no dry powder can be seen.
- [7]** Follow other guidelines as for giving any medicine to a patient (p.413).

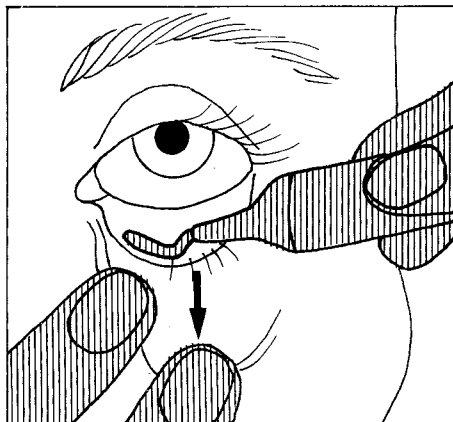
PUTTING IN EYE OINTMENT OR DROPS

Teach patient to do the following:

- [1]** Wash hands.
- [2]** Patient should lie down or hold his head back.
- [3]** Rest finger of one hand on the cheek bone below the eye. Pull down on lower eyelid.
- [4]** Hold medicine in the other hand.
- [5]** Patient should look up, toward his forehead.
- [6]** Apply the eye ointment or drops as follows:

Eye Ointment

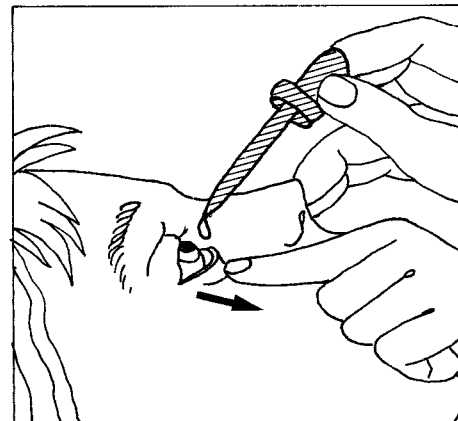
- Do NOT let tip of ointment tube touch eye.
- Squeeze a small amount of ointment onto inside of lower eyelid.



- Blink eye several times to spread the ointment.
- Wipe any extra ointment from eyelids with tissue.
- Wash hands again, especially if there is an eye infection.

Eye Drops

- Do NOT let dropper touch eye.
- Put 1-2 drops onto inside of lower eyelid.



- Look down toward the chin, and blink.
- Wash hands again, especially if there is an eye infection.

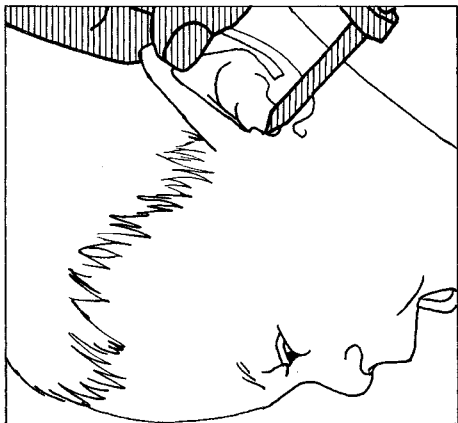
PUTTING IN EAR DROPS

If patient has draining ear, before you give him ear drops to use at home, remove drainage with one of the following:

- Suction:
 - ☐ Gomco suction machine.
 - ☐ a syringe attached to an IV catheter (with the needle removed), or attached to a Butterfly® type of IV, with all but 2-3 cm. of the tubing cut off.
- A twist of cotton or tissue, which can "wick" up the moisture.

Teach patient to do the following:

- [1]** Shake drops well, if needed.
- [2]** Tilt head to one side.
 - The ear to be treated should be pointed up.
 - It may help to have a child lie on parent's lap.
- [3]** With one hand, pull back on the ear to straighten the ear canal.
- [4]** Hold medicine in the other hand and put drops into ear canal.
 - Do NOT touch dropper to ear.
 - Usually 4-5 drops are given.



[5] Gently massage skin in front of ear to help spread the medicine.

[6] Keep head tilted to side for 5-10 minutes after using the medicine.

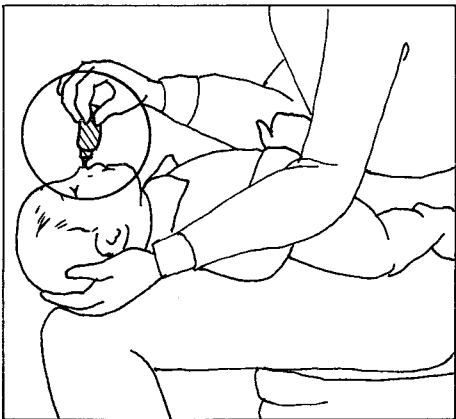
USING NOSE DROPS

Teach patient to do the following:

[1] Lie down, and tilt head back.

- A baby can be held in parent's lap.

[2] Put 2-3 drops in each nostril, and sniff.



[3] If possible, keep head back for a short time to let drops run deep into nose.

Other Information, for Salt Water Nose Drops

Salt water nose drops (0.9% SODIUM CHLORIDE, normal saline) help to

remove mucus from an infant or young child's runny/stuffy nose.

- If needed, they can be used every hour.
- After putting in drops, a parent should:
 - ☐ Wait for 2-3 minutes.
 - ☐ Use a suction bulb (p.170) to get out thick mucus.
- Use a new supply for the next headcold.
- If clinic does not have salt water drops, parent can make them:
 - ☐ dissolve ¼ teaspoon of table salt in 1 cup of water.

INSERTING RECTAL SUPPOSITORIES

In An Infant

Teach parent to do the following:

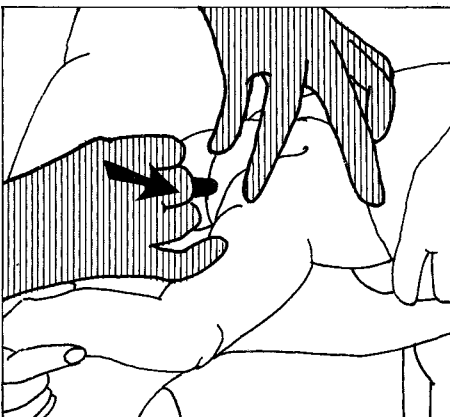
[1] Unwrap suppository and apply a small amount of lubricating jelly (K-Y®, Lubafax®) or petrolatum (Vaseline®) to the tip.

[2] Place infant on his abdomen.

[3] Put on a rubber finger cover or examination glove.

[4] Gently push suppository into rectum:

- Use your little finger, if needed.
- Aim suppository toward belly button.
- Push suppository just past the anus muscle.



Inserting rectal suppository.

[5] After suppository is in, hold infant's buttocks together for several minutes, for medicine to melt and be absorbed.

[6] Wash hands.

In An Adult

Teach patient to do the following:

[1] Unwrap suppository and apply a small amount of lubricating jelly (K-Y®, Lubafax®) or petrolatum (Vaseline®) to the tip.

[2] Put on a rubber finger cover or examination glove.

[3] Gently push suppository into rectum:

- It may be more comfortable to use your little finger.
- Aim suppository toward belly button.
- As patient puts in suppository, he should "push" as if he was having a bowel movement.
 - ☐ this will help to relax the muscles and make it more comfortable.
- Push suppository just past the anus muscle, so it does not get pushed back out.

[5] Tighten muscles of anus to hold suppository in.

- Patient should not worry if he passes some wax from the suppository.

[6] Wash hands.

USING VAGINAL SUPPOSITORIES AND CREAMS

Teach woman to do the following:

[1] Review directions that come with the package.

[2] When possible, use the medicine at bedtime.

- For example, if the medicine is used twice a day, it can be used in morning and at bedtime.

[3] If medicine is a suppository:

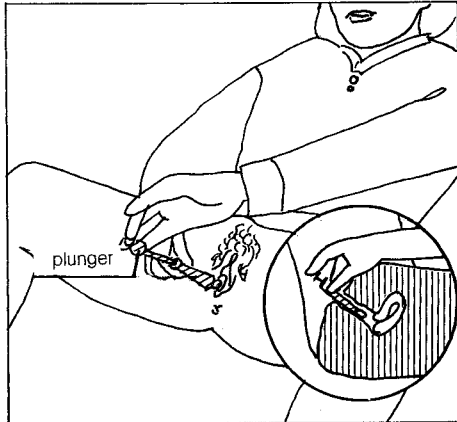
- Remove foil covering.
- It may help to moisten the suppository.
- Put suppository into applicator.

[4] If medicine is a cream, fill applicator to the mark as shown in the directions.

[5] Lie on your back. Bend and spread your knees.

[6] Next, gently insert the applicator, deep into vagina, as far in as possible.

[7] Push plunger of applicator.



Inserting vaginal cream.

[8] Remove applicator.

[9] If possible, stay lying down for 5-10 minutes.

[9] Take applicator apart. Clean after each use with soap and warm water.

[10] Some medicine will come back out.

- Use a sanitary napkin to protect clothing.
- Do NOT use a tampon.

PUTTING STERILE CREAM OR OINTMENT ON THE SKIN

Begin here to apply sterile cream or ointment when it is important to keep an area as clean as possible (as when treating a burn).

Supplies needed:

Sterile gloves
Sterile 4x4's (gauze sponges)
If needed, to clean the area, use:
0.9% SODIUM CHLORIDE for irrigation (normal saline)
Sterile wooden tongue blade
Correct cream or ointment
Roll of sterile gauze
Adhesive tape

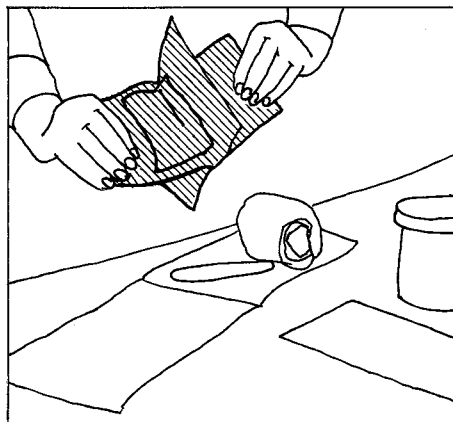
If possible, also teach someone in patient's family to do the following at home:

[1] On a flat surface, carefully peel open outer wrapper that holds sterile gloves.

- Be careful not to touch inside of wrapper.
- Peel wrapper all the way open, so it will lay flat.
- Remove package inside, which holds the gloves, and set it aside.

[2] Onto the wrapper, carefully peel open and drop:

- Sterile 4x4's.
- Sterile wooden tongue blade.
- Roll of sterile gauze.



[3] Open container of cream or ointment.

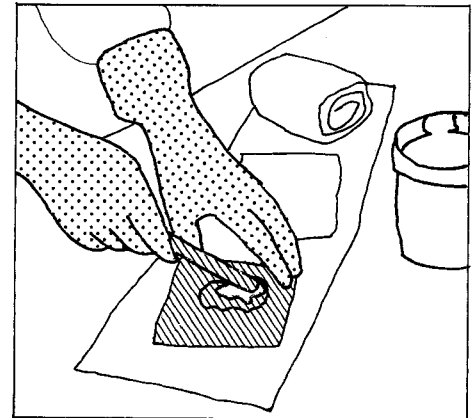
[4] Put on sterile gloves.

[5] If needed, remove old dressings and clean the skin:

- Gently remove old dressings.
- Hold some 4x4's in your hands while a helper pours on some normal saline to wet them.
- Gently scrub away old medicine and dead tissue.
- Change your gloves before applying new medicine.

[6] Use sterile tongue blade to spread cream/ointment on 4x4's.

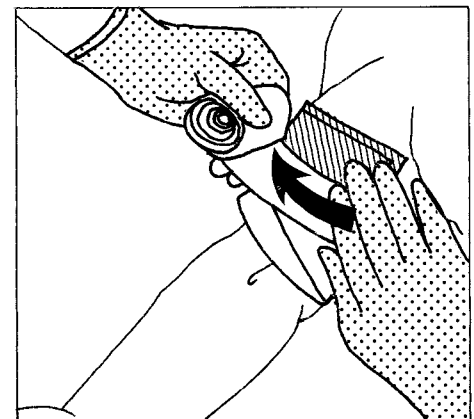
- Spread so that 4x4 is covered, but not very thick. A layer about 1/16" is good.
- Spread to the edge of 4x4.



Spread cream or ointment on 4x4's.

[7] Place 4x4's on the skin to cover the problem area.

- Hold 4x4's in place with roll of sterile gauze, and tape the dressing in place.



USING A METERED-DOSE INHALER

Some patients are given these special inhalers by prescription. Teach patient to do the following:

- [1]** Shake inhaler well, about 10-15 times.
 - [2]** Put mouthpiece a few inches from mouth.
 - [3]** Breathe out, and open mouth wide.
 - [4]** Start breathing in slowly as you push down on inhaler one time.
 - Continue to breathe in slowly until lungs are full (5-6 sec.).
 - [5]** Hold your breath for about 10 seconds.
 - [6]** Let air out.
 - [7]** *If you are taking more than one puff, wait five minutes before next puff.*
 - [8]** Rinse mouth with water, especially if using BECLOMETHASONE (Vanceril®).
-

WELLNESS AND HEALTH SURVEILLANCE

WELLNESS

- Wellness = a person staying as physically, socially, and mentally healthy as possible. In order for a person to stay well:
- It is the CHA/P's job to:
 - give patient education (general guidelines, p.vii).
 - do health surveillance (found in this section).
 - It is the patient's and family's job to practice good health habits in order to stay well.

Patient Education

- Talk to patients about the things they can do to stay well.
- Include information in chart A.

HEALTH SURVEILLANCE

Many diseases and health problems can be prevented or found and treated early. This important job should be done by the CHA/P in cooperation with other health care providers.

1. Get Set Up

- 1.1** Place a health surveillance record in each chart.
- 1.2** Count the number of patients over age 6 in your village.
- 1.3** Schedule health surveillance.
 - If your village is small, schedule all villagers in one month.
 - If your village is large, examine a certain number of patients during each month.
 - for example: If 5 months of the year are OK because people are

- home, and if your village has 100 people, schedule 20 patients each of those months.
 - Make appointments for health surveillance. If a patient misses his appointment, make another.
- 1.4** Schedule patients to see the doctor or PHN for certain tests you can not do.

2. Do Health Surveillance:

2.1 Do the health surveillance activities in chart 2.1 and record results on health surveillance record.

Chart 2.1 HEALTH SURVEILLANCE	
WHAT TO CHECK	HOW OFTEN
Blood pressure	Once a year.
Height	Once a year, until age 21.
Weight	Once a year.
TB skin test	Once a year unless positive.
Hemoglobin	Every 3 years until age 15. Once a year in: <ul style="list-style-type: none"> Females age 16-45. Everyone over 45.
Breast exam & Pap smear	Once a year in: <ul style="list-style-type: none"> Sexually active women of any age. After age 17.
Td booster	Every 10 years.
Vision	Once a year.
Tonometry	Once a year after age 40.

- 2.2** Follow other guidelines in your region. Depending upon the age and risk factors of patient, additional health surveillance activities may be needed, such as:
- Complete history and screening physical exam.
 - Urine dipstick.

- Dental check-up and fluoride treatment.
- Hearing test.
- Bowel movement for hidden blood (p.84).
- Hepatitis screening and/or immunization (p.83).
- Flu vaccine.
- Blood sugar (glucose, p.58).

3. Assessment

- 3.1 Your assessment should be:
- Normal Health Surveillance Results,** or
 - Abnormal Health Surveillance Results.**

4. Plan

4.1 Plan: Normal Health Surveillance Results

[1] Patient education should include information in chart A.

[2] Recheck in one year.

4.2 Plan: Abnormal Health Surveillance Results

[1] Report to your referral doctor.

- [2] Patient education** should include:
- Information about the abnormal health surveillance results.
 - Information in chart A.

[3] Other plan depends on your referral doctor's assessment and may include:

- Complete history (p.364).
- Screening physical exam (p.368).
- Other exam or tests.
- Scheduling appointment with doctor.
- Medicines or other treatment.
- Writing this problem on patient's problem list.

[4] Recheck as follows:

- Recheck in one month, sooner if referral doctor suggests.

Chart A

Patient Education GUIDELINES FOR WELLNESS

1. Have good nutrition:
 - A good diet is important for good health (p.443).
2. Exercise regularly:
 - Walk or get other exercise for 20 minutes at least 3 times a week.
 - ☐ try not to get short of breath.
 - If you are age 40 or more or have other health problems, consult your doctor before starting.
3. Reduce stress. Many people have too much stress in their lives.
 - Follow guidelines on p.221.
4. Avoid too much alcohol:
 - Do NOT drink when pregnant.
 - Do not get drunk.
5. Avoid illegal ("street") or unneeded drugs.
6. Avoid tobacco:
 - Smoking is the single most preventable cause of disease and death.
 - Chewing tobacco (snuff) can cause cancer.
7. Prevent accidents:
 - Use seat belts.
 - Wear helmets when riding (snowmachines, 3 wheelers, motor cycles).
 - Protect eyes. For example, wear goggles when working with power tools.
 - Do NOT drink and drive.
 - Prevent poisoning (p.16).
8. Watch for weight loss and other warning signals for cancer or chronic disease:
 - C=Change in bowel or bladder habits.
 - A=A sore that does not heal.
 - U=Unusual bleeding or discharge.
 - T=Thickening or lump in breast or elsewhere.
 - I=Indigestion or difficulty in swallowing.
 - O=Obvious change in wart or mole.
 - N=Nagging cough or hoarseness.

PREVENTING THE SPREAD OF COMMUNICABLE DISEASE

Patient Education

Remind people of ways to prevent the spread of germs.

- Include information in chart B.

Chart B

Patient Education COMMUNICABLE DISEASE PREVENTION

1. Handwashing.
 - Handwashing can prevent spread of many diseases.
 - Always wash hands:
 - ☐ after handling unclean material.
 - ☐ before beginning a "clean" activity.
 - Use lots of soap and water.
 - ☐ rinse well.
 - ☐ dry with a paper towel.
 - Fingernails can hide germs.
 - ☐ keep fingernails trimmed.
 - ☐ use a scrub brush to wash under nails.
2. Safe Drinking Water.
 - The best source of clean water is a community water system or a drilled well.
 - Purify water from these other sources:
 - ☐ spring or lake water.
 - ☐ rain water.
 - ☐ melted snow or ice.
 - Purify water by boiling for 5 minutes.
 - Or, purify water by disinfecting.
 - ☐ use one of the following:
 - 1 quart clear water + 1 drop chlorine bleach, or
 - 5 gallons clear water + ½ tsp. chlorine bleach.
 - ☐ if cloudy water, double the bleach.
 - ☐ mix well and let stand for 30 minutes before using.
 - Try not to use river water.
 - ☐ it is more likely to be contaminated.

- Do not contaminate your water source.
 - ☐ do not empty honey buckets near water source.
 - ☐ keep outhouses, dogs, and garbage away from water source.
- Carry and store water in clean buckets and containers.
- 3. Waste disposal.
 - Honey buckets:
 - ☐ cover to keep out children, bugs, and animals.
 - ☐ empty into a pit and bury if possible.
 - ☐ do NOT empty onto the ground or near water supply.
 - ☐ disinfect bucket with bleach and water after every emptying.
 - Outdoor toilets:
 - ☐ build 200 feet away from water source.
 - ☐ avoid building on high ground or low ground.
 - ☐ make the building tight, so animals and insects can not get in.
 - Garbage and household wastes:
 - ☐ dispose of dirty water in a seepage pit.
 - ☐ place garbage in a covered metal can to keep insects and animals away.
 - ☐ remove garbage regularly.
- 4. Food storage and preparation.
 - Cover foods and store properly to keep out animals and insects.
 - Keep food cool, especially fish, eggs, milk, cheese, leftovers.
 - Prepare foods properly to prevent illness.
 - ☐ wash hands well when handling foods.
 - ☐ do not prepare food for others if you have open sores on your hands or have diarrhea.
 - ☐ cook meats well, especially bear, fish, moose and pork.
 - ☐ keep food areas clean.
 - Do NOT store fermented food in air tight container.

The CHA/P's Role in Preventing Communicable Disease

Keeping Clean

- Keep yourself clean.
- Keep your clothes clean.
- Keep clinic clean.
- Try to keep the waiting room from becoming too crowded with sick people.
- If not too cold, open windows in the clinic for fresh air.
- Make sure the bathroom is clean and there is a place for people to wash their hands.
- Make sure the floors, cabinets, and your work areas are cleaned and disinfected frequently.
- Wash hands before and after examining patient.
- Change the exam table paper after each patient.
- Disinfect clinic instruments and equipment.

Report Communicable Diseases

Report all communicable diseases to your referral doctor or PHN.

- Here are a few examples of the diseases you should report:
 - ☐ botulism.
 - ☐ gonorrhea.
 - ☐ hepatitis.
 - ☐ meningitis.
 - ☐ mumps.
 - ☐ rheumatic fever.
 - ☐ rubella.
 - ☐ salmonella.
 - ☐ shigella.
 - ☐ trichinosis.
 - ☐ tuberculosis.
- Also report the following:
 - ☐ illnesses with rash and fever.
 - ☐ unusual number of cases of any infectious disease.
 - ☐ severe reactions to any vaccine.
 - ☐ diseases related to environmental exposure to toxic or hazardous material.
 - ☐ diseases which may possibly arise as a result of a worker's occupation.

- When you report, include the following:
 - ☐ name of patient.
 - ☐ date of birth.
 - ☐ sex.
 - ☐ race.
 - ☐ marital status.
 - ☐ residence.
 - ☐ date symptoms started.

NUTRITION

Nutrition has to do with the food you eat and how your body uses it.

In addition to information in this manual, patient education on nutrition is available through many sources, including:

- For pamphlets or audio-visual materials, write to:
Ak. Area Native Health Service
Area Nutrition Section
P.O. Box 7-741
Anchorage, Alaska 99510
- For pamphlets on how to obtain, prepare and store local foods, write to:
Cooperative Extension Service
University of Alaska, Fairbanks
303 Tanana Drive, Room WN6A
Fairbanks, Alaska 99701

BASIC GUIDELINES FOR A HEALTHY DIET

Patient education should include the following information:

1. Eat a well-balanced diet, with foods from the four food groups every day (Chart 1).
 - Local and native foods such as fish, wild meats, and berries are healthy foods and are inexpensive.
 - ☐ gather only plants or mushrooms that you know are safe; some are poisonous.
2. Eat less "extra" foods. These are foods do not fit into the four food groups. They have lots of calories but little more:
 - Eat less fat, especially fat that is solid at room temperature. Follow guidelines for a low fat diet (p.445).
 - Eat less sugar or foods high in sugar (p.446).
 - Eating too much of these foods takes the place of more nourishing foods and helps to cause problems such as tooth decay, heart disease, obesity (being fat), diabetes, and anemia.
3. Eat more foods with fiber (p.446).
4. Stay at the right weight.
 - Know what you should weigh to be healthy.
 - If you want to lose weight, see your CHA/P.
5. Avoid too much salt.
 - Learn to enjoy unsalted food.
 - Add only *small* amounts of salt when cooking.
 - Add little or no salt to food at the table.
 - Eat less of salty foods (p.445).
6. Avoid too much alcohol.
7. Avoid food supplements that are not needed.
 - Eating a well-balanced diet is the best way for your body to get what it needs.
 - Take vitamins, minerals or other food supplements only if prescribed.
8. Every day eat some food that is high in calcium (p.448).

**NUMBER OF SERVINGS
RECOMMENDED EVERY DAY**

THE FOUR FOOD GROUPS

		Preschool age Child (small servings)	School age Child	Teenager	Adult	Pregnant Woman	Nursing Mother
MILK GROUP	COUNT AS ONE SERVING:						
	<ul style="list-style-type: none"> 1 cup of milk <p>Cheese, yogurt, or ice cream can be used for part of the milk servings.</p>	2	3	4	2	4	5
MEAT GROUP	COUNT AS ONE SERVING:						
	<ul style="list-style-type: none"> 2 ounces of cooked fish, poultry (birds), or other lean meat (meat without much fat), such as a small fish or a chicken leg or a small hamburger or other meat 1 cup of cooked dry beans or peas. 4 Tablespoons of nuts or peanut butter 2 eggs 	2	2	2	2	4	4
FRUIT-VEGETABLE GROUP							
COUNT AS ONE SERVING:	Vitamin C fruits & vegetables:						
	<ul style="list-style-type: none"> ½ cup of most fruits & vegetables 	1	1	1	1	1	1
	<ul style="list-style-type: none"> A portion such as banana or potato or ½ grapefruit or 1 cup of salad greens. 						
	Leafy green & deep yellow fruits and vegetables	1	1	1	1	1	1
	Other fruits & vegetables	2	2	2	2	2	2
BREAD-CEREAL GROUP	COUNT AS ONE SERVING:						
	<ul style="list-style-type: none"> 1 slice of bread or 1 pilot bread cracker ¾ cup ready-to-eat cereal ½ cup cooked cereal, cornmeal, macaroni/spaghetti, or rice 	4	4	4	4	4	4

9. Handle food safely and prepare it correctly.

- Keep food and food areas clean.
- Keep hot foods hot and cold foods cold.
- Prevent botulism (p.281). Do NOT store meat in plastic bags unless it is kept frozen.

10. Try to prevent cancer. In addition to eating less fat and eating more foods with fiber, the following may help:

- Eat less food that is salt-cured, smoked, or nitrite-cured (such as bacon).
- Eat more of the following vegetables: broccoli, brussels sprouts, cabbage, and cauliflower.

11. Take good care of your teeth, so that you can eat well.

- Brush and floss every day (p.234).
- Use FLUORIDE (p.235).
- Have a dental check-up once a year.

OTHER NUTRITIONAL GUIDELINES FOR AGE GROUPS

Babies and Young Children

See other sections:

- Breast feeding (p.182).
- Well-child care (p.188).

School Age Children & Teenagers

Poor nutrition in a child can cause more illnesses, poor growth, poor wound healing, and poor school performance.

- Avoid drinks that are high in sugar.
 - ☐ have unsweetened juices instead of soda pop.
- Avoid too much caffeine.
- A child age 3 or more should take 1 SODIUM FLUORIDE tablet once a day, UNLESS he is drinking 1 quart of fluoridated water a day.

Adults

- Eat foods high in Vitamins A and C, calcium, and iron (Chart 2). These are nutrients that many diets lack.
- Some problems of this age group can be prevented or controlled with good nutrition and exercise. These problems include obesity (being fat), heart disease, high blood pressure, dental cavities, anemia, and diabetes.

Older People

Poor nutrition in the older person can cause anemia, cancer, brittle bones, loss of teeth, and other problems. In addition to being active, the older person should:

- Eat foods high in calcium and iron (Chart 2).
- Eat extra fiber (p.446).
- Keep teeth for as long as possible. Continue to brush and floss every day (p.234).
- Contact a social service program if there is not enough money to buy the needed foods.

SPECIAL DIETS

If a special diet was prescribed for a patient who returns to the village:

- You need to know the doctor's assessment and plan.
- The dietitian may have given the patient special instructions.
 - ☐ ask patient to show you any written instructions.
 - ☐ if you need more information about the diet, contact your dietitian or referral doctor.

Some common special diets are listed here. Although the first few are recommended for everyone, they are also prescribed for patients with certain problems. Patient education may include the following information:

Low Salt Diet (Low Sodium Diet)

A low salt diet may be prescribed for a patient with a problem such as liver or kidney disease, heart failure, high BP, edema (swelling of skin).

- Read food labels to see how much salt (sodium) is in foods.
- AVOID eating salty foods, such as the following:
 - ☐ most cheeses.
 - ☐ canned fish or meat.
 - ☐ dried salted fish.
 - ☐ ham, bacon, sausage, lunch meats.
 - ☐ canned vegetables.
 - ☐ seaweed.
 - ☐ pickled foods.
 - ☐ potato chips, salted nuts & crackers.
 - ☐ canned or packaged soups.
 - ☐ seasoned salts, ketchup, mustard, soy sauce, dips, sauerkraut.
- Add only *small* amounts of salt when cooking.
 - ☐ If a very low salt diet is prescribed, do NOT add salt when cooking.
- Do NOT add salt to food at the table.
- Suggested pamphlets:
 - ☐ "Low Salt Foods."
 - ☐ "2000-3000 mg. Sodium Diet."
 - ☐ "1000 mg. Sodium Diet."

Low Fat Diet

A low fat diet may be prescribed for a patient with a problem such as gallbladder or liver disease.

- Read food labels to see how much fat is in foods.
- AVOID eating foods high in fat, such as the following:
 - ☐ meat with fat on it or in it.
 - ☐ organ meats, such as liver.
 - ☐ eggs.
 - ☐ fried foods, including potato chips and fried bread.
 - ☐ chocolate.
 - ☐ whole milk, canned milk, cream, or ice cream. Have skim milk or low fat milk instead.

- Avoid alcohol.
- Eat the following foods from the meat food group:
 - ☐ dry beans and peas.
 - ☐ fish.
 - ☐ poultry (birds), with skin removed.
 - ☐ lean meats (meats without much fat). Trim off fat, if present.
- Broil, bake, or boil food instead of frying in some kind of fat.
- When you do use fats:
 - ☐ avoid butter and other fats that are solid at room temperature.
 - ☐ use cooking oil (vegetable oil), seal oil, or margarine.
- Suggested pamphlet: "Low Fat Diet."

High Fiber Diet

Fiber is the tougher, chewy parts of fruits, vegetables, and grains.

A diet high in food fiber may be prescribed for a patient with an anus problem or constipation. Fiber holds more water in it and makes the bowel movement softer and easier to pass.

- All foods may be eaten, but eat more of the following:
 - ☐ dried fruits, such as raisins.
 - ☐ fresh fruits with skins; also oranges, grapefruit, berries.
 - ☐ raw vegetables.
 - ☐ cooked vegetables with skins, such as potatoes with skins, beans, corn, and tomatoes.
 - ☐ whole grain flours and cereals such as bran or bran flakes.
 - ☐ brown rice.
 - ☐ roasted nuts, seeds, chunky peanut butter, popcorn.
- Eat less of the following:
 - ☐ smooth peanut butter.
 - ☐ peeled fruits.
 - ☐ cooked and peeled vegetables.
 - ☐ breads, crackers made with white flour.
 - ☐ Farina®, cornflakes, puffed rice.
 - ☐ white rice.

Low Caffeine Diet

A low caffeine diet may be prescribed for a patient with a problem that

caffeine or caffeine-like substances may cause, including: nervousness (anxiety), abnormal heart rate or rhythm, "heartburn," and trouble sleeping.

- AVOID the following:
 - ☐ coffee.
 - ☐ tea.
 - ☐ all soda pop that lists caffeine on the label, including Colas, Mello-Yellow®, Mountain Dew®, Dr. Pepper®, and Sunkist®.
 - ☐ chocolate, cocoa.
 - ☐ medicine that lists caffeine on the label, such as "stay awake" tablets, certain headache medicines, and others.
- "Decaffeinated" or "Caffeine-free" products are OK.

Weight Loss Diet

If you think a patient should lose weight:

- Check patient's weight and height.
- You may want to:
 - ☐ ask your referral doctor what the patient *should* weigh.
 - ☐ ask your dietitian for a weight loss diet. A good weight loss diet for an adult is a 1200 calorie a day diet.
- Recheck patient often.
 - ☐ encourage him to lose the weight.
 - ☐ reassure him. Losing weight is a hard job!

Patient education should include the following:

- Try to lose weight slowly.
- Continue to eat a well-balanced diet each day, with foods from the four food groups (Chart 1).
 - ☐ prepare and eat smaller amounts from each food group.
- Prepare your foods plainly. Avoid making fried foods, sauces, and creamed dishes.
- Eat slowly.
- Avoid second helpings.
- AVOID eating foods high in sugar.
 - ☐ this includes:
 - white and brown sugar, honey, molasses, and syrup.
 - sweetened condensed milk.

- Kool-Aid® or soda pop ("Diet" drinks are OK).
- cake, candy, cookies, doughnuts, pie, pudding.
- ice cream and sherbet.
- jam, jelly.
- chewing gum (unsweetened gum is OK).

- ☐ read food labels to see how much sugar is in foods. There is a lot of sugar if any of the following names are listed first: sucrose, glucose, dextrose, fructose, or syrup.
- Avoid eating other fattening foods, such as the following:
 - ☐ alcohol.
 - ☐ foods high in fat. Follow guidelines for a low fat diet (p.445).
- If you have a snack between meals, have something that is low in calories, but nutritious, such as a piece of fruit.
- Check your weight at least once a week.
 - ☐ do NOT try to lose more than 2 pounds a week.
 - ☐ stay on your diet even if at times you do NOT seem to be losing weight.

Diet High in Certain Nutrients

Nutrients are the parts of food that supply energy, repair the body, and help the body to grow.

No single food has all the nutrients that a person needs. People should eat many different kinds of foods.

A patient may be given a prescription for a diet high in certain nutrients.

- Good sources of certain nutrients are listed in Chart 2.

Other Special Diets

See other sections:

- Breastfeeding:
 - ☐ mother's diet (p.444).
 - ☐ breastfeeding a baby (p.182).
- Clear liquid diet (p.75).
- Diabetes diet (p.57).
- Low milk diet (p.73).
- Pregnancy diet (p.444).

ASSESSMENT OF PATIENT'S DIET

In order to make this assessment and to help you counsel the patient, use the "24 Hour Food Recall Form" (Chart 3)

Chart 3

24 Hour Food Recall Form

Patient's Name _____ Age _____ Sex _____ Date _____

1. "Please tell me everything you had to eat and drink yesterday, from the time you got up until you went to bed, plus anything you ate or drank during the night".

2. "Was yesterday's diet an example of the way you eat most of the time?" YES NO

If NO, how was it different from a more normal day? (Consider when you count patient's total servings per day)

Time of day, or meal	FOOD and DRINK: What was it? How much (cup, ounce, slice, tablespoon)? How was it prepared?	Servings from 4 Food Groups				"Extra" (Fats, sweets)
		Milk	Meat	Fruit-Veg.	Bread-Cereal	

Number of patient's total servings per day *

Servings recommended every day (Chart 1)

How many more servings are needed?

* Was one fruit or vegetable serving a good Vitamin A source (Chart 2)? YES NO

* Was one fruit or vegetable serving a good Vitamin C source (Chart 2)? YES NO

3. "Do you take vitamins, iron or other supplements?" YES NO. If YES, what kinds and how much?

4. Write down other information about patient or his family that affects his nutrition and health:

5. The patient's most important diet problems are:

6. Recommendations to improve patient's diet. (These should be realistic, ones that patient is likely to make. Ask patient to help you with these.)

Signature/Title _____

Chart 2

NUTRIENTS: GOOD SOURCES

Protein:

- All foods from the meat food group:
 - ☐ fish; poultry (birds); other meats, including bear, caribou, moose, muskrat, seal, squirrel, walrus, whale.
 - ☐ dried beans and peas.
 - ☐ nuts, peanut butter.
 - ☐ eggs.
- Foods from the milk food group: milk, cheese, yogurt.

Carbohydrates (sugars and starches):

- Fruits and berries.
- Potatoes, corn, and lima beans.
- All foods from the bread-cereal food group: cereals, grains, flour, and rice.

Fat:

- Nuts.
- Cooking oil, seal oil.
- Margarine.
- Bacon, muktuk, and other animal fats.
- Butter, shortening.
- Whole milk, canned milk.

Vitamins:

- Vitamins A and D:
 - ☐ fish liver oil; liver from caribou, ling cod, moose, tom cod and walrus.
 - ☐ eggs.
 - ☐ milk.
 - ☐ apricots, peaches.
 - ☐ carrots, fireweed, sweet potatoes, sourdock, spinach, squash, and willow leaves.
 - ☐ sunshine on the skin helps the body make Vitamin D.
- Vitamin B:
 - ☐ meats.
 - ☐ dried beans, nuts.
 - ☐ vegetables.
 - ☐ whole grain or enriched flour, breads and cereals.
- Vitamin C:
 - ☐ berries, grapefruits, lemons, oranges.
 - ☐ cabbage, fireweed, green peppers, potatoes, tomatoes, willow leaves.

Minerals:

- Calcium:
 - ☐ Foods from the milk food group: milk, cheese, yogurt.
 - ☐ bony fish (canned salmon, sardines, other fish cooked so you can eat the bones).
 - ☐ beluga liver.
 - ☐ beach asparagus, dried seaweed, green leafy vegetables, willow leaves.
- Iron:
 - ☐ red meats, liver, egg yolks.
 - ☐ dry beans and peas.
 - ☐ prunes, raisins.
 - ☐ fireweed, dried seaweed, dark leafy vegetables, willow leaves.
 - ☐ enriched or whole grain breads and cereals.
- Iodine:
 - ☐ seafood.
 - ☐ iodized table salt.
- Potassium:
 - ☐ apricots, bananas, grapefruit, oranges, prunes, raisins, rhubarb.
 - ☐ cabbage, carrots, cauliflower, celery, potatoes.
 - ☐ foods from the meat food group: fish, poultry (birds), other meat, cooked dry beans.

GENERAL FOLLOW-UP OR LONG-TERM CARE

Begin here if there is not a specific section in this manual for patient's problem. This section includes the following:

- Follow-up care of patient who returns to the village after having an illness, surgery, or other problem.
- Long-term care of patient with chronic disease.

1. Get Information from the Doctor

You need to know the doctor's assessment and plan, including:

1.1 Medicine: Is patient supposed to take any medicine? If so, for each medicine, find out the following:

- Name.
- Dose.
- How often patient should take it.
- Warnings and side effects patient should look for.
- Possible problems when taking other medicine at the same time (drug interactions).
- When should prescription be changed (increased or stopped)?

1.2 Are there any special problems or symptoms to watch for in this patient?

1.3 Is there other special patient education, such as things the patient should avoid?

1.4 Does patient need any special appointments or tests? If so, how will these be arranged?

2. Get History From Patient

2.1 Ask patient how he has been since you saw him last.

- Does patient have any problems?

2.2 If on medicine:

- Does patient take medicine as directed?
- Are there side effects or problems from the medicine?

3. Exam

Check for changes from patient's usual exam.

4. Assessment

4.1 Your assessment should include the name of the problem, plus "follow-up care" or "long-term care."

4.2 Also include in your assessment:

- "Doing well," if no problems.
- Problems with medicine:
 - ☐ side effects.
 - ☐ NOT taking as directed.
- Other problems you have found.

5. Plan

5.1 Patient education. If possible, get patient education handouts from your referral hospital or other sources.

5.2 If on medicine, your plan should include the following:

- Discuss importance of taking medicine.
- Remind patient about warnings and possible side effects.
- If side effects, treat as recommended by your referral doctor.
- Give patient a refill, if needed.

5.3 Recheck. Make appointment for next visit. If doing well, see patient at times recommended by your referral doctor.

5.4 Report to your referral doctor:

- If possible, send a copy of your SOAP note to the doctor. Contact him sooner if you found any problems or changes.
- Ask doctor:
 - ☐ are special immunizations needed for this patient (flu, pneumococcal)?
 - ☐ should this problem be written on patient's problem list?

5.5 Other plan should include the following:

- Order more medicines, if needed.
 - ☐ fill out the pharmacy refill request, if needed.
 - If needed, check to see that patient's name is on list of patients to be seen on a field trip by doctor, PHN.
-

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If patient has a health problem and the index refers you to an assessment or plan, go back to the beginning of that problem section and begin there.

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